

EXHIBIT J

**10/7/15 Letter from Plum Creek's Counsel B. Ellison
and Proof of Claim to Asbestos PD Trust**

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October 7, 2015

VIA EMAIL AND FIRST CLASS MAIL

Deborah D. Williamson, Esq.
Dykema Cox Smith
112 E. Pecan Street, Suite 1800
San Antonio, TX 78205
dwilliamson@dykema.com

Re: W.R. Grace 7A Property Damage Trust Proof of Claim

Dear Ms. Williamson:

This letter is Plum Creek Timber Co., Inc.'s ("**Plum Creek**") proof of claim to the W.R. Grace 7A Property Damage Trust, from which Plum Creek seeks recovery of at least \$1,883,424.¹ Plum Creek's corporate headquarters are located at 601 Union Street, Suite 3100, Seattle, WA 98101, and the last four digits of its federal taxpayer number are 2863.² Cairncross & Hempelmann, P.S. (contact information listed above) represents Plum Creek.³

Plum Creek is among the largest private landowners in the United States, managing more than six million acres in 19 states, including 771,000 acres in Montana. This includes significant land near the former Libby vermiculite-asbestos mine which is owned and operated by W.R. Grace & Co. and its affiliates in bankruptcy (together "**Grace**" or the "**Debtors**"). The entire Libby mine facility and

¹ The above-included information responds to the requirements of Section II.A.1(Q) of the Case Management Order for Class 7A Property Damage Claims, Case No. 01-01139-KJC, ECF No. 26,368-27, at p.2 ("**Case Management Order**"). The relevant Case Management Order provisions requesting information are attached as **Exhibit A**. We will footnote when this Proof of Claim responds directly to the information requirements of the Case Management Order. A chronological summary of all the relevant responses in this Proof of Claim is attached as **Exhibit B**.

² Case Management Order at § II.A.1(A).

³ *Id.*

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adjacent lands, including the town of Libby, were declared a superfund site in late 2002,⁴ more than a year after Grace filed bankruptcy.⁵

The Environmental Protection Agency (“EPA”) has designated a number of “Operable Units” as part of its remediation efforts in and around the former vermiculite mine. The mine itself and the land surrounding it has been designated as Operable Unit 3 (“OU3”). Plum Creek owns a total of 2,639 acres within OU3 as it is currently defined. This includes 767 acres that are within one mile of the edge of the former vermiculite mine and 844 acres that are outside the one mile radius but which can be accessed only by using roads that cross within 1 mile of the former vermiculite mine. This 1611 acres constitutes the “Property” at issue in this Proof of Claim.

Plum Creek acquired some of the Property from its predecessor entity when it was created in 1989, and acquired some of the Property in 1993. The Property is currently a commercial forest.⁶ The Property location is shown on the map attached as **Exhibit C**.⁷

Plum Creek is filing this Proof of Claim because recent information has confirmed that Grace’s mining operations contaminated this land to the extent that commercial forestry operations are no longer feasible.

Requests D through L of the Case Management Order generally seek information concerning how “*asbestos-containing products*” came into contact with real property through “*interior repair or renovations*.” Because the contamination from the mine at Libby was not caused by “*products*” and there was neither man-made “*repair*” nor “*renovations*,” the answers to all these Requests are “not applicable” or “no.”

⁴ Environmental Protection Agency, *Final Rule: National Priorities List for Uncontrolled Hazardous Waste Sites*, FRL-7399-6, 67 FED.REG. 65,315 (Oct. 24, 2002).

⁵ NPL Site Narrative for Libby Asbestos, *available at* <http://www.epa.gov/superfund/sites/npl/nar1661.htm> (“The Libby Asbestos site includes an inactive vermiculite mine located on Vermiculite Mountain in northwestern Montana, and portions of the town of Libby.”) See also 67 FED.REG. at 65,316 (“Although a CERCLA ‘facility’ is broadly defined to include any area where a hazardous substance release has ‘come to be located,’ the listing process itself is not intended to define or reflect the boundaries of such facilities or releases.”)

⁶ Case Management Order at § II.A.1(C).

⁷ *Id.* at § II.A.1(B).

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To the extent any further response can be provided to Requests D through L, Plum Creek first learned of the Grace bankruptcy and its connection to possible asbestos contamination of trees growing in the vicinity of Libby following its May 21, 2010 review of a May 6, 2010 draft EPA report. At that time, Plum Creek did not know whether, in fact, there was any asbestos contamination on any of its property.⁸ Nonetheless, out of an abundance of caution, Plum Creek filed a Motion to Allow Late Filing of Proofs of Claim on July 2, 2010.⁹

Apparently to determine whether Plum Creek was timely put on notice of the claims bar date, the Case Management Order requests a list of “*all newspapers and magazines to which the Class 7A Claimant has subscribed.*”¹⁰ Plum Creek was never given individualized notice of the Grace bankruptcy or the bar date for filing claims. This inquiry as to whether publication notice somehow cures this defect is misplaced for two reasons.

First, Grace knew or reasonably should have known about the contamination of Plum Creek’s Property. Therefore, in this case, the Debtors had to provide Plum Creek with particularized notice of the bankruptcy filing and the proof of claim filing deadline. This duty to provide notice in excess of mere general publication is clear from the following facts:

- The federal government sued Grace in 2001 for the environmental contamination at Libby.¹¹

⁸ Notably, nothing in the May 6, 2010 draft EPA report suggested that there was particularized evidence of asbestos contamination of trees on Plum Creek’s Property. Asbestos contamination at Libby was presumed to exist since before the *Grace* bankruptcy claims bar date, but there has always been uncertainty as to the scope of contamination. *See, e.g., U.S.A. v. Grace*, 429 F.3d 1224, 1229-30 (9th Cir. 2005) (chronicling stages of testing).

⁹ A copy of Plum Creek’s Motion to Allow Late Filing of Proofs of Claim, ECF No. 25,040 and accompanying exhibits are attached as **Exhibit D**. This is the only “*individual asbestos-related property damages lawsuit or claim [that] has been filed against Grace relating to the property for which the Class 7A Claimant [i.e., Plum Creek] is making the claim.*” Case Management Order at § II.A.1(M). Plum Creek has made no other asbestos-related claims regarding the Property against any party other than those alleged against Grace. Case Management Order at § II.A.1.(N).

¹⁰ Case Management Order at § II.A.1(P).

¹¹ *U.S.A. v. W.R. Grace et al.*, Case No. 01-72-M-DWM (D. Mont. 2001).

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- By 2002, the Libby mine facility and certain surrounding areas were designated a superfund site.
- Grace understood that it had significant financial exposure due to the Libby mine site; and there are few significant private landowners around Libby other than Plum Creek.¹²
- Grace listed claims relating to Libby contamination (section 2.72.2 through 2.8.3) in its Amended Disclosure Statement in the bankruptcy case.¹³

Second, if Grace were unaware of airborne contamination of trees growing around Libby (which is consistent with its failure to provide individualized notice), then Plum Creek would have also had no reason to file a claim in the underlying bankruptcy case. Indeed, back in 2003 (the claims bar deadline), Plum Creek had no reason to suspect that any trees were contaminated with asbestos. It is true that by the time in 2010 that Plum Creek filed its motion to allow late filing of proofs of claim, Plum Creek knew something about theoretical risks of asbestos contamination to its Property. However, at that time, it had no confirmation that, in fact, any Plum Creek trees had been contaminated.

Plum Creek's level of awareness changed six months ago when it first learned that specific timber on its Property had been contaminated with vermiculite-asbestos to an extent that it prevented commercial forestry from occurring. Specifically, in December 2014, the EPA issued a Draft Site-Wide Human Health Risk Assessment ("**2014 Report**"), attached as **Exhibit E**.¹⁴ The 2014 Report made numerous findings concerning the risk to human health at various distances from the Libby Mine:¹⁵

data show[s] that [Libby asbestos] structures are present on the outer bark surface of trees at the Site.¹⁶ If [Libby asbestos]-containing trees or wood-related materials (e.g., woodchips, mulch) are disturbed, people may be exposed to [Libby asbestos] that is released to air from the wood. If [Libby asbestos]-containing trees are used as a source of firewood (e.g., in a residential

¹² Plum Creek's Motion to Allow Late Filing of Proofs of Claim, ECF No. 25,040, at ¶ 10.

¹³ Debtors' Amended Disclosure Statement, ECF No. 20,873.

¹⁴ CDM Smith, Executive Summary for Site-wide Human Health Risk Assessment, Libby Asbestos Superfund Site, Libby, Montana, December 2014, *available at* <http://www2.epa.gov/sites/production/files/2014-12/documents/libby-asbestos-draft-site-wide-hhra-exec-summ-12-8-2014.pdf>.

¹⁵ 2014 Report, at Figure ES-7.

¹⁶ The 2014 Report defines "Site" as the 2002 Libby Asbestos Superfund Site, which as note 6 indicates is broadly defined. 2014 Report, at p. ES 1.

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woodstove), studies have shown that [Libby asbestos] fibers can become concentrated in the resulting ash, which itself can become a source of potential [Libby asbestos] exposure.

When commercial logging activities were conducted in an area located near the mine with higher concentrations of [Libby asbestos] in tree bark and duff, estimated [recommended maximum exposure] cancer risks for all commercial logging activities were below 1E-04,¹⁷ but [the] non-cancer [hazard quotients] were at or above 1 during timber skidding and site restoration activities ...

Estimated [recommended maximum exposure] non-cancer [hazard quotients] for activities associated with the removal of ash from a woodstove differed depending on the source of the firewood that was burned. The estimated [hazard quotient] was 1 when firewood was collected from a location near the mine (where tree bark [Libby asbestos] levels are highest), but [hazard quotients were below] when firewood was collected from a location intermediate or far from the mine.¹⁸ ...

These risk estimates demonstrate that exposures to Libby Asbestos in ash may contribute significantly to cumulative exposures, especially if the ash is derived from a wood source in close proximity to the mine.¹⁹

The 2014 Report defines “near the mine” or “in close proximity to the mine” as within 1 mile and concludes that it will be impossible to safely conduct commercial forestry within that area. It also concludes that commercial forestry operations can be safely conducted 4 or more miles from the mine.²⁰

¹⁷ This is the threshold at which cumulative cancer risks arise. 2014 Report, at p. ES 4. Numbers “lower” than 1E-04 (*i.e.*, 1E-03, 1E-02, 1E-01) are more carcinogenic.

¹⁸ Non-cancer health risks are measured differently from the 1E-04 scale for cancer risks, noted immediately above. If the cumulative hazard quotient is below 1, generally no remedial action is required. By contrast, measurements of 1 or above are consistent with cumulative non-cancer health risks. *Id.*

¹⁹ 2014 Report, at pp. ES 7-ES 8.

²⁰ *Id.*

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It left for the future any determination of whether and how commercial forestry operations could be conducted safely between 1 and 4 miles of the mine.²²

There is no other commercial use for Plum Creek's property that is within one mile of the mine, causing a loss to Plum Creek of the value of the 767 acres within that area. Plum Creek has also lost access to an additional 844 acres, because the road system leading to those additional acres crosses within the 1 mile zone. Since Plum Creek can no longer conduct commercial forestry on these 1611 acres, they have unambiguously been "taken." The loss Plum Creek has incurred is valued at \$1,883,424, based on the value of the Property and the value of the merchantable timber on the Property.²³

Due to its inability to conduct commercial forestry operations on the Property, Plum Creek requests that the present Proof of Claim be satisfied in at least this amount, with leave to further amend this Claim as the full extent of harm to its property interest and the costs of remediation, assuming remediation is even possible or practical, become apparent.

Very truly yours,



Ben Ellison

cc: Rosemary Daszkiewicz
John R. Rizzardi

²² If the EPA ultimately concludes that commercial forestry operations cannot occur between 1 and 4 miles from the mine, or that they may occur only under conditions that make commercial forestry financially unfeasible, Plum Creek anticipates filing a second Proof of Claim to recover the lost value of its lands within that 1 and 4 mile zone.

²³ Plum Creek has estimated the amount of merchantable timber on the Property using standard methods and techniques. The actual merchantable timber may be slightly higher or lower, as documented by a timber cruise.

EXHIBIT A

which class certification has been denied and an appeal from such denial of class certification is pending as of the Effective Date:

1. The appeals shall proceed to completion.
 2. The Anderson Memorial class claims (Nos. 09911 and 09914) shall remain inactive unless and until there is a final, appealable order with respect to the Anderson Memorial individual claim (No. 011008).
 3. Claims for which appeals are successful, resulting in reversal of the Bankruptcy Court order(s) disallowing and expunging the claims (including the sixteen Asbestos Property Damage Claims filed by the State of California, Department of General Services, and thirty-seven Canadian Claims filed by Speights & Runyan), or denying class certification, shall be remanded to the Bankruptcy Court for proceeding[s] consistent with this CMO for Class 7A Asbestos PD Claims and the Amended Order and the exhibits thereto. For the avoidance of doubt, Section II of this PD CMO does not apply to such proceedings and/or any other proceedings ordered by the court(s) of appeal.
- II. The procedures with respect to Class 7A Asbestos PD Claims, other than (i) Asbestos PD Claims that have been allowed pursuant to a PD Settlement Agreement; and (ii) Unresolved Asbestos PD Bar Date Claims, shall be as follows:
- A. **Proof of Claim:** In order to assert a claim against the Asbestos PD Trust for a Class 7A Asbestos PD Claim, a Class 7A Claimant must file a Proof of Claim (the "POC") with the Asbestos PD Trust.
1. The POC shall provide the following information to the best of the Class 7A Claimant's knowledge, information or belief:
 - (A) Class 7A Claimant's name, the last four digits of the claimant's social security number or FEIN, mailing address, and attorney's name, law firm name, mailing address and telephone number.
 - (B) Property address.
 - (C) Whether the Class 7A Claimant owned the property on the March 2003 Bar Date and, if not, who owned the property on the March 2003 Bar Date.
 - (D) Whether the Class 7A Claimant or someone else on his, her, or its behalf completed any interior repair or renovations on the property that disturbed, dislodged or affected any asbestos-containing product(s) manufactured or distributed by any of the Debtors

(hereafter "Asbestos-Containing Products") in the property. If yes, specify the dates and description of such repair or renovations.

- (E) Whether any other interior repair or renovations were completed on the property during any other period of time that disturbed, dislodged or affected any Asbestos-Containing Product(s) in the property. If yes, specify the dates and descriptions of such repair or renovations.
- (F) When the Class 7A Claimant or someone on his, her, or its behalf installed Asbestos-Containing Product(s) in the property.
- (G) If the Class 7A Claimant or someone on his, her, or its behalf did not install Asbestos-Containing Product(s) in the property, when such product(s) was/were installed.
- (H) Copies of all documentation relating to the purchase and/or installation of the Asbestos-Containing Product(s) in the property. If the documents are too voluminous to attach, attach a summary of the documents indicating the name of each document, date of each document, a brief description of the document, the location of the document, and who has possession of the document. If a summary of documents is provided rather than the documents themselves, the Class 7A Claimant is required to consent to the production and release of those documents to Grace upon Grace's further request.
- (I) When the Class 7A Claimant first learned of the presence of Asbestos-Containing Product(s) in the property for which the Class 7A Claimant is making this claim. Provide copies of all documents relating or referring to the presence of such asbestos or such Asbestos-Containing Product(s). If the documents are too voluminous to attach, attach a summary of the documents indicating the name of each document, date of each document, a brief description of the document, the location of the document, and who has possession of the document. If a summary of documents is provided rather than the documents themselves, the Class 7A Claimant is required to consent to the production and release of those documents to Grace upon Grace's further request.
- (J) When the Class 7A Claimant first learned that the Asbestos-Containing Product for which the claim is being made contained asbestos.
- (K) Whether the Class 7A Claimant or someone else on its behalf made any effort to remove, contain and/or abate the Asbestos-Containing Product(s) in the property for which the Class 7A Claimant is making this claim. If yes, provide copies of all

documents relating or referring to such efforts. If the documents are too voluminous to attach, attach a summary of the documents indicating the name of each document, date of each document, a brief description of the document, the location of the document, and who has possession of the document. If a summary of documents is provided rather than the documents themselves, the Class 7A Claimant is required to consent to the production and release of those documents to Grace upon Grace's further request.

- (L) If the Class 7A Claimant or someone on his, her, or its behalf has not made any effort to remove, contain and/or abate the Asbestos-Containing Product(s) in the property for which the Class 7A Claimant is making a claim, whether anyone else made such an effort and, if so, when.
- (M) Whether any individual asbestos-related property damage lawsuit or claim has been filed against Grace relating to the property for which the Class 7A Claimant is making the claim.
- (N) Whether any individual asbestos-related property damage lawsuit or claim has been filed against any other party relating to the property for which the Class 7A Claimant is making this claim.
 - (1) If an asbestos-related property damage lawsuit has been filed relating to the property for which the Class 7A Claimant is making the claim, provide the following information about each such lawsuit or attach a copy of the face page of each complaint filed: the caption; the court where the lawsuit was originally filed; the docket number; and the date filed.
 - (2) If an asbestos-related property damage claim has been filed relating to the property for which the Class 7A Claimant is making the claim, provide the following information about each such claim or attach a copy of the face page of each claim filed: the description of the claim; the date submitted; and the name of entity to whom the claim was submitted.
- (O) When the Class 7A Claimant first learned of W. R. Grace's bankruptcy cases.
- (P) A list of all newspapers and magazines to which the Class 7A Claimant has subscribed.
- (Q) The dollar amount of the Class 7A Claimant's claim.

EXHIBIT B

Summary of Relevant Responses from Proof of Claim

- A. Class 7A Claimant's name, the last four digits of the claimant's social security number or FEIN, mailing address, and attorney's name, law firm name, mailing address and telephone number.

Name: Plum Creek Timber Co., Inc.

FEIN: 2863

Mailing Address: 601 Union Street, Suite 3100, Seattle, WA 98101

Attorney: Ben Ellison, Cairncross & Hempelmann, P.S., 524 Second Avenue, Suite 500, Seattle, WA 98104

206-254-4402

See Page 1 of the Letter.

- B. Property address.

Libby, Montana. See Page 2 of the Letter and Exhibit C.

- C. Whether the Class 7A Claimant owned the property on the March 2003 Bar Date and, if not, who owned the property on the March 2003 Bar Date.

Yes. Plum Creek acquired some of the Property from its predecessor entity when it was created in 1989, and acquired some of the Property in 1993. See Page 2 of the Letter.

- D. Whether the Class 7A Claimant or someone else on his, her, or its behalf completed any interior repair or renovations on the property that disturbed, dislodged or affected any asbestos-containing product(s) manufactured or distributed by any of the Debtors (hereafter "Asbestos-Containing Products") in the property. If yes, specify the dates and description of such repair or renovations.

No. See Pages 2-6 of the Letter and Exhibits D & E.

- E. Whether any other interior repair or renovations were completed on the property during any other period of time that disturbed, dislodged or affected any Asbestos-Containing Product(s) in the property. If yes, specify the dates and descriptions of such repair or renovations.

No. See Pages 2-6 of the Letter and Exhibits D & E.

- F. When the Class 7A Claimant or someone on his, her, or its behalf installed Asbestos-Containing Product(s) in the property.

Not applicable. See Pages 2-6 of the Letter and Exhibits D & E.

- G. If the Class 7A Claimant or someone on his, her, or its behalf did not install Asbestos-Containing Product(s) in the property, when such product(s) was/were installed.

Not applicable. See Pages 2-6 of the Letter and Exhibits D & E.

- H. Copies of all documentation relating to the purchase and/or installation of the Asbestos-Containing Product(s) in the property. If the documents are too voluminous to attach, attach a summary of the documents indicating the name of each document, date of each document, a brief description of the document, the location of the document, and who has possession of the document. If a summary of documents is provided rather than the documents themselves, the Class 7A Claimant is required to consent to the production and release of those documents to Grace upon Grace's further request.

Not applicable. See Pages 2-6 of the Letter and Exhibits D & E.

- I. When the Class 7A Claimant first learned of the presence of Asbestos-Containing Product(s) in the property for which the Class 7A Claimant is making this claim. Provide copies of all documents relating or referring to the presence of such asbestos or such Asbestos-Containing Product(s). If the documents are too voluminous to attach, attach a summary of the documents indicating the name of each document, date of each document, a brief description of the document, the location of the document, and who has possession of the document. If a summary of documents is provided rather than the documents themselves, the Class 7A Claimant is required to consent to the production and release of those documents to Grace upon Grace's further request.

Not applicable. But see Pages 3-6 of the Letter and Exhibits D & E.

- J. When the Class 7A Claimant first learned that the Asbestos-Containing Product for which the claim is being made contained asbestos.

Not applicable. But see Pages 3-6 of the Letter and Exhibits D & E.

- K. Whether the Class 7A Claimant or someone else on its behalf made any effort to remove, contain and/or abate the Asbestos-Containing Product(s) in the property for which the Class 7A Claimant is making this claim. If yes, provide copies of all documents relating or referring to such efforts. If the documents are too voluminous to attach, attach a summary of the documents indicating the name of each document, date of each document, a brief description of the document, the location of the document, and who has possession of the document. If a summary of documents is provided rather than the documents themselves, the Class 7A Claimant is required to consent to the production and release of those documents to Grace upon Grace's further request.

Not applicable. See Pages 2-6 of the Letter and Exhibits D & E.

- L. If the Class 7A Claimant or someone on his, her, or its behalf has not made any effort to remove, contain and/or abate the Asbestos-Containing Product(s) in the property for

which the Class 7A Claimant is making a claim, whether anyone else made such an effort and, if so, when.

Not applicable. See Pages 2-6 of the Letter and Exhibits D & E.

- M. Whether any individual asbestos-related property damage lawsuit or claim has been filed against Grace relating to the property for which the Class 7A Claimant is making the claim.

Yes. See Page 3 of the Letter and Exhibit D.

- N. Whether any individual asbestos-related property damage lawsuit or claim has been filed against any other party relating to the property for which the Class 7A Claimant is making this claim.

No. See Page 3 of the Letter.

- O. When the Class 7A Claimant first learned of W. R. Grace's bankruptcy cases.

Not applicable. See Pages 3-6 of the Letter and Exhibits D & E.

- P. A list of all newspapers and magazines to which the Class 7A Claimant has subscribed.

Not applicable. See pages 3-6 of the Letter and Exhibits D & E.

- Q. The dollar amount of the Class 7A Claimant's claim.

At least \$1,883,424. See Pages 1 & 6 of the Letter.

EXHIBIT C

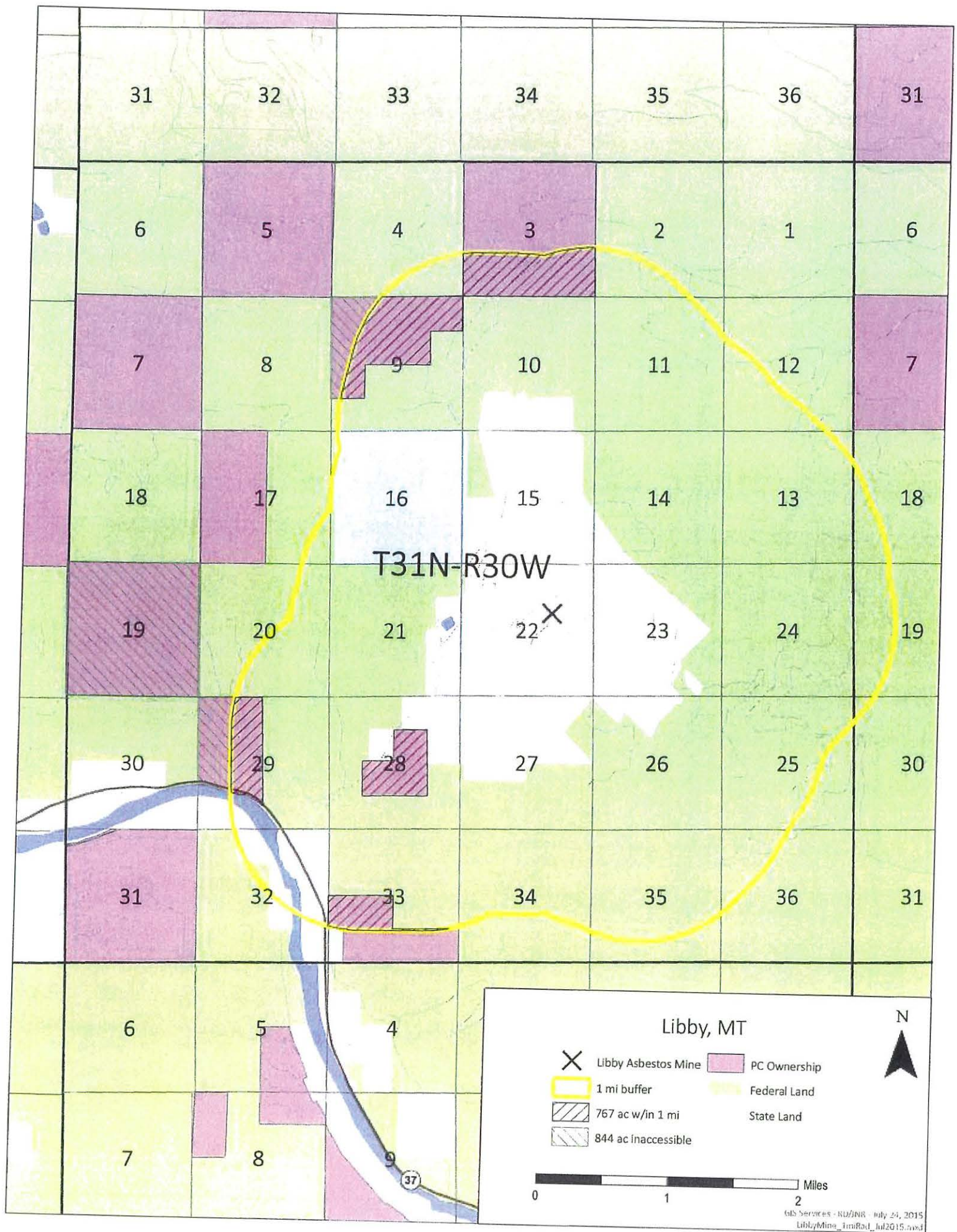


EXHIBIT D

IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE

In re:

W.R. GRACE & CO., et al.,

Debtors.

Chapter 11

Case No. 01-01139 (JKF)
(Jointly Administered)

Hearing Date: August 9, 2010, 10:00 a.m. (EDT)
Objection Date: July 23, 2010

**MOTION OF PLUM CREEK TIMBERLANDS, L.P.
TO ALLOW LATE FILING OF PROOFS OF CLAIM**

Pursuant to 11 U.S.C. § 105(a) and Rule 9006(b)(1) of the Federal Rules of Bankruptcy Procedure, Plum Creek Timberlands, L.P. ("Plum Creek") seeks entry of the attached proposed Order allowing Plum Creek's late filing of proofs of claim. This motion is supported by the Declarations of Rosemary Daszkiewicz, Gregg D. Johnson, and John R. Knapp, Jr. and the files and records herein. Plum Creek respectfully states as follows:

SUMMARY

1. Several weeks ago, on May 6, 2010, a draft report was prepared by the United States Environmental Protection Agency (the "EPA Draft Report"), which raised for the first time the issue of whether Plum Creek's timberlands in the vicinity of Libby, Montana, might be unsafe to log because of the presence of asbestos (specifically, vermiculite) released into the atmosphere by one or more of the Debtors' mining operations near Libby.

2. The EPA Draft Report is a technical document titled "Remedial Investigation for Operable Unit 3, Libby Asbestos Superfund Site, Phase IV Sampling and Analysis Plan, Part A, Data to Support Human Health Risk Assessment." To Plum Creek's knowledge, the EPA Draft Report was prepared as part of a joint effort by EPA and the Debtors to conduct a remedial investigation and feasibility study of the Libby Superfund Site pursuant to the requirements of EPA's regulations at 40 C.F.R. Part 300. The EPA Draft Report concerns only a portion of the Libby Site known as Operable Unit 3 ("OU3"¹), where it appears that

¹ OU3 is located within what Debtors and the EPA have referred to as the Libby Superfund Site.

asbestos has become embedded into the bark of trees owned by Plum Creek. Although the EPA Draft Report is just that – a draft – and is presumably subject to EPA review and approval, it raises for the first time to Plum Creek's knowledge the prospect that the commercial harvesting of its trees may be hazardous to human health. For this reason the EPA Draft Report recommends that testing and analysis is necessary to determine if this is so.

3. Plum Creek is in the business of growing and commercially harvesting trees and owns approximately 5,000-6,000 acres of timberlands within OU3 and a total of approximately 30,000 acres in the vicinity of Libby. Plum Creek is reviewing the value of the timber and will advise the Debtors and the Court of the status at or prior to the hearing on the Motion.

4. Upon learning of the EPA Draft Report, Plum Creek determined that no confirmation order had been entered in these proceedings and promptly contacted the Debtors' counsel who had not yet seen the EPA Draft Report. In an effort to promptly inform the bankruptcy estate of this development, Plum Creek notified the Debtors' counsel that it was intending to file proofs of claim, followed by a motion to allow these claims. The Debtors' counsel advised it had no objection to this approach.

5. At present, it is unclear to Plum Creek whether the claims bar date of March 31, 2003, which has been set in this case (the "Bar Date") applies to the damages incurred, if at all, with respect to trees owned by Plum Creek. The Instructions printed on the Proof of Claim form state that it applies only to claimants who are "alleging property damage with respect to asbestos in *real property* owned by a party . . . as a result of one of Grace's vermiculite mining, milling or processing facilities." (emphasis added) To the extent Plum Creek has suffered compensable damages, it is most likely to be with respect to its inventory of trees ("goods" under the Uniform Commercial Code, not real property).² However, to the extent

² The Uniform Commercial Code defines "goods" as including "standing timber that is to be cut and removed under a conveyance or contract for sale" but does not specify when the conveyance or contract for sale must arise. UCC §9-102(44).

the Bar Date applies to Plum Creek's claims, cause exists to allow the late-filed claims given that (1) upon information and belief, this is a truly novel situation because it is the first instance where a governmental agency such as the EPA has raised the issue of whether the hazardous substance, asbestos, which has become imbedded into tree bark, may lead to unacceptable health effects if those trees are harvested, thus potentially rendering the trees unusable; and (2) Plum Creek filed its proofs of claim promptly upon learning of the EPA Draft Report.

FACTS

6. On April 2, 2001, the Debtors filed voluntary petitions for relief under Chapter 11, title 11, United States Code, in the United States Bankruptcy Court for the District of Delaware. The Debtors are continuing to operate their businesses and manage their properties as debtors in possession.

7. Although the bankruptcy schedules and statements of affairs filed by the Debtors are unavailable online, the bankruptcy records reviewed by Plum Creek's counsel do not indicate that the Debtors made any reference to Plum Creek or any claim held by Plum Creek, nor is there any indication that the Debtors identified potential claims arising from vermiculite becoming embedded into the bark of trees as a result of the mining, milling, or processing activities conducted by the Debtors. However, given Plum Creek's status as a landowner in the area, Plum Creek should have been in the Debtors' records.

8. On April 22, 2002, this Court entered an order setting March 31, 2003, as the Bar Date for filing all prepetition claims relating to asbestos property damage, non-asbestos claims, and medical monitoring claims. (Doc. # 1963.)

9. Although newspaper accounts generally reported that the Debtors had filed bankruptcy, Plum Creek was unaware of the Bar Date and Plum Creek, to its knowledge, received no notices in the bankruptcy case. (See Declaration of Rosemary Daszkiewicz ("Daszkiewicz Decl.") ¶ 3.) The fact that Plum Creek received no bankruptcy court notices is a further indication that the Debtors did not identify Plum Creek in their bankruptcy schedules.

Counsel for the Debtors has advised, after review of the mailing records by the Debtors' claims consultant, that no entity with the name "Plum Creek" in it received actual notice of the Bar Date.

10. More than six (6) months before expiration of the Bar Date, the EPA listed the Libby Asbestos Site on the National Priorities List. See 67 Fed. Reg. 65,315 (Oct. 24, 2002). OU3 is included within that "Superfund Site" and there are only a few major property owners within OU3. (Daszkiewicz Decl. ¶ 4.) To Plum Creek's knowledge, however, the Debtors did not amend their bankruptcy schedules to identify property owners within OU3. Counsel for the Debtors has advised that she had not previously contemplated, but will consider, amending the schedules to add Plum Creek.

11. On March 28, 2003, the EPA filed a timely proof of claim. (Claim Number 00009634 (the "EPA's Claim").) A copy of the EPA's Claim is attached to the Declaration of Gregg D. Johnson. The EPA's Claim asserts environmental contamination at numerous specific sites, including the Superfund Site in Libby, Montana, which includes OU3. According to the EPA's Claim, W.R. Grace & Co. – Conn. was liable under an administrative order issued pursuant to CERCLA and a judicial consent decree in connection with the Libby Site. The EPA's Claim also refers to a pending lawsuit against W.R. Grace & Co. – Conn. styled United States v. W.R. Grace & Company – Conn., et al., Case No. 01-72-M-DWM (D. Mont.). Although the EPA's Claim refers to this Debtor's liability for cleanup of U.S. Forest Service roads and Forest Service property along the Kootenai River, there is no reference to any of the Debtors' liability for contamination of trees on US Forest Service lands.

12. On September 7, 2007, the EPA, W.R. Grace & Co. - Conn. and Kootenai Development Company entered into an "*Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study*" with respect to the Libby, Montana Superfund Site (the "Order on Consent"). A copy of the Order on Consent is attached to the Declaration of Gregg D. Johnson. Under the Order on Consent, both W.R. Grace & Co. - Conn. and Kootenai Development Company are determined to have joint and several liability for

performance of remedial action and payment of response costs to be incurred at the Libby Site. The Agreement further provides that the Debtors shall conduct a remedial investigation and feasibility study under a scope of work prepared by EPA. Plum Creek is not a party to the Agreement, was not privy to negotiations regarding it, and to its knowledge, had no advance notice regarding it (other than such notice, if any, as may have appeared generally in newspapers). (See Daszkiewicz Decl. ¶ 5.)

13. On February 27, 2009, the Debtors filed an Amended Disclosure Statement, (Doc. # 20873), and an Amended Plan of Reorganization, (Doc. # 20872). Sections 2.7.2 to 2.8.1.3 of the Amended Disclosure Statement discuss asbestos-related litigation and property damage claims including those in the Libby area but say nothing about the Debtors having any liability for claims related to contaminated trees.³ To the extent that Plum Creek's claims may be classified as so-called "Asbestos Property Damage" claims, Exhibit 3 to the Amended Plan provides that upon confirmation, a trust will be established and funded (the WRG Asbestos Property Damage Settlement Trust Agreement) for purposes of assuming all liabilities and responsibility for all Property Damage Trust Claims, and for processing, liquidation and payment of such claims. (Exhibit 3 to Plan Exhibit Book, "Asbestos PD Trust Agreement," Section 1.2.) Exhibit 25 to the Amended Plan allows the filing of proofs of claim with a trust (the Asbestos Property Damage Trust) after confirmation of the Amended Plan, after which the Debtors may file a motion in this Court seeking to enjoin such claims on grounds that they are barred by the discharge granted to the Debtors pursuant to confirmation of the Plan and the March 2003 Bar Date. (Exhibit 25 to Plan Exhibit Book, "Case Management Order for Class 7A Asbestos PD Claims," Section II.A., B.3.)

14. Due to the Debtors' ongoing involvement since at least 2001 in dealing with environmental contamination at OU3, either Plum Creek's identity as a property owner

³ For example, Section 2.8.1.1 discusses remediation costs for "cleaning and/or demolition of contaminated buildings, excavation and removal of contaminated soil, health screening of Libby residents and of former mine workers, and investigation and monitoring costs."

within OU3 could easily have been discovered by a review of the books and records presumably within the possession of the Debtors. If the Debtors could not reasonably have been expected to identify Plum Creek as a creditor, it is likely because the Debtors themselves did not foresee any claim arising from property owners on account of tree bark being contaminated by the Debtors' mining operations.

15. In connection with the Order on Consent, on May 6, 2010, the EPA prepared the EPA Draft Report. Upon information and belief, the EPA Draft Report was generally prepared pursuant to 40 C.F.R. Part 300 and specifically pursuant to 40 C.F.R. 300.430 ("Remedial investigation, feasibility study and selection of remedy"), which provides a step by step process to study/assess a release (a/k/a "remedial investigation"), followed by a phase to determine the viable options to clean up the release (a/k/a "feasibility study") and finally a phase to make a determination on a clean up (a/k/a "Record of Decision"). The remedial investigation and feasibility study phases are collectively known as the "RI/FS." Upon information and belief, the May 6, 2010, EPA Draft Report constitutes the EPA staff's recommended scope of testing and analysis to assess the human health impacts from asbestos within OU3 and specifically within tree bark.

16. Specifically with respect to the potential risk associated with the commercial harvesting of timber lands, the EPA Draft Report concludes that there is a need to undertake various types of testing, sampling and analysis in OU3. A map of OU3 obtained from the EPA Draft Report is attached as Exhibit 2 to Plum Creek's claims and incorporated herein by reference. As noted previously, Plum Creek currently owns approximately 5,000-6,000 acres of timberland within OU3. The EPA Draft Report states that the presence of asbestos contamination in OU3 must be studied in order to determine its effect on, among others, commercial loggers. (See EPA Draft Report, Section 2.1, at 5-6.) Specifically, it identifies the need "to monitor air levels during authentic commercial logging activities near the site." (Id.

Section 3.1, at 10.) The EPA Draft Report states that it is *not currently known* whether the asbestos in OU3 presents an unacceptable risk to human health. (See *id.* Section 4.1, at 12.)

17. On or about May 21, 2010, Plum Creek learned of the EPA Draft Report. Promptly thereafter, Plum Creek retained bankruptcy counsel, who in turn contacted the Debtors' bankruptcy counsel regarding the EPA Draft Report (a report which the Debtors' counsel had not seen yet) and the prospect that Plum Creek might hold claims against the Debtors. (See Daszkiewicz Decl. ¶ 6.)

18. The contents of the EPA Draft Report created uncertainty for Plum Creek because (1) it raises an unresolved issue of the threat, if any, to human health if Plum Creek's OU3 timberlands are commercially logged, and (2) it raises an unresolved issue of whether any of Plum Creek's land will need to undergo an EPA approved remedial action under the Comprehensive Environmental Response, Compensation and Liability Act, 42 §§ 9601 *et seq.* ("CERCLA"). If any of Plum Creek's timber cannot be logged or cannot be logged without some prior EPA approved remedial action, Plum Creek will suffer a financial loss.

19. Because the EPA Draft Report is merely a draft, Plum Creek has had insufficient opportunity to determine the scope and extent of its claims against the Debtors. Accordingly, the proofs of claim asserted by Plum Creek are contingent and unliquidated. (See Daszkiewicz Decl. ¶ 7.)

20. On June 7, 2010, proofs of claim were filed with Rust Consulting in the name of Plum Creek Timber Company, Inc. against Kootenai Development Company and W.R. Grace & Co. – Connecticut. Date-stamped copies of the proofs of claim are attached as Exhibits A and B to the Declaration of Gregg D. Johnson.

21. After the filing of the proofs of claim, Plum Creek determined that the proofs of claim should be filed in the name of Plum Creek Timberlands, L.P. On June 30, 2010, Plum Creek sent amended proofs of claim to Rust Consulting for filing via FedEx. Copies of the

amended proofs of claim are attached as Exhibits A and B to the Declaration of John R. Knapp, Jr.

22. As of the filing of this Motion, no confirmation order has been entered with respect to the Debtors' Amended Plan of Reorganization, and to the knowledge of Plum Creek, there have been no distributions to creditors holding prepetition general unsecured claims.

ARGUMENT

A. Legal Standards: Applicable Statutes and Rules

23. Section 502(b)(9) of the Bankruptcy Code provides that a late-filed claim is not allowed unless the late-filed claim is permitted under the Federal Rules of Bankruptcy Procedure.

24. Rule 3003(c)(3) of the Federal Rules of Bankruptcy Procedure provides that the "court shall fix and for cause shown may extend the time within which proofs of claim . . . may be filed." Rule 9006(b)(1) provides that a court may allow a party to file a late claim "on motion made after the expiration of the specified period . . . where the failure to act was the result of excusable neglect."

B. Legal Standards: Applicable Precedent

25. In Pioneer Investment Services Co. v. Brunswick Assoc. Ltd. P'ship, 507 U.S. 380 (1993), the Supreme Court determined that a party's failure to timely file a proof of claim before the bar date can constitute excusable neglect. In so ruling, the Supreme Court established a two-part test in determining what constitutes excusable neglect: (1) the conduct must not be deliberate but must constitute neglect, which "encompasses both simple, faultless omissions to act and, more commonly, omissions caused by carelessness"; and (2) the conduct must be excusable which is "at bottom an equitable one, taking into account all relevant circumstances surrounding the party's omission," including (1) the danger of prejudice to the debtor, (2) the length of delay and its potential impact on judicial proceedings, (3) the reason for

the delay, including whether it was within the reasonable control of the movant, and (4) whether the movant acted in good faith. Id. at 388, 395.

26. The United States Court of Appeals for the Third Circuit and the Federal District Court for the District of Delaware have applied the Pioneer factors and have allowed for the late filing of claims based on excusable neglect in a number of cases. See In re Inacom Corp., Civ. A. 04-390-GMS, 2004 WL 2283599, at *1 (D. Del. Oct. 4, 2004) (applying Pioneer to allow a late-filed claim); Manus Corp. v. NRG Energy, Inc. (In re O'Brien Envtl. Energy, Inc.), 188 F.3d 116, 125 (3d Cir. 1999) (same); Chemetron Corp. v. Jones, 72 F.3d 341, 349-50 (3d Cir. 2000); In re Orthopedic Bone Screw Prods. Liab. Litig., 246 F.3d 315, 321-23 (3d Cir. 2001); Welch & Forbes, Inc. v. Cendant Corp. (In re Cendant Corp. Prides Litig.), 233 F.3d 188, 196 (3d Cir. 2000). The Delaware Bankruptcy Court has also applied the Pioneer factors recently. See, e.g., In re Smidth & Co., 413 B.R. 161, 166-67 (Bankr. D. Del. 2009); In re Garden Ridge Corp., 348 B.R. 642, 645 (Bankr. D. Del. 2006).

27. In this bankruptcy case, this Court has applied the Pioneer equitable factors in several instances. For example, on February 23, 2004, this Court entered an order, (Doc. # 4667), allowing the late filed claim of Royal Indemnity Company, a claimant which had actually received written notice of the Bar Date. Unlike Royal Indemnity Company, Plum Creek never received a proof of claim packet from the Debtors.

C. Applying the Legal Standards to the Facts Here, Plum Creek's Claims Should Be Allowed as Timely

28. The factors analyzed below establish that Plum Creek's claims should be allowed as timely.

D. There Is No Danger of Prejudice to the Debtors or Creditors

29. According to the Third Circuit, "prejudice is not an imagined or hypothetical harm; a finding of prejudice should be a conclusion based on facts and evidence." Manus, 188 F.3d at 127. In Inacom, the federal District Court for the District of Delaware determined that the following factors should be considered in determining whether prejudice

might arise: (a) "whether the debtor was surprised or caught unaware by the assertion of a claim that it had not anticipated"; (b) "whether the payment of the claim would force the return of amounts already paid out under the confirmed Plan or affect the distribution to creditors"; (c) "whether payment of the claim would jeopardize the success of the debtor's reorganization"; (d) "whether allowance of the claim would adversely impact the debtor actually or legally"; and (e) "whether allowance of the claim would open the floodgates to other future claims." Inacom, 2004 WL 2283599, at *4.

30. *The Debtors Should Not Be Surprised.* The Debtors identified 32 different sites subject to contamination, including the Libby, Montana site, and the EPA filed a timely proof of claim with respect to the contaminated sites. As a result, the Debtors have known of their potential liability with respect to these contaminated sites for years, although the prospect for contamination to tree bark and related health effects to commercial loggers, if any, is admittedly new with the issuance of the EPA's Draft Report in the past several weeks.

31. *Payment of Plum Creeks' Claims Will Not Force the Return of Other Payments.* To date, there has been no confirmation order entered with respect to the Debtors' Amended Plan and based upon information and belief, there has been no distribution in payment of general unsecured creditors' claims that might have to be returned upon allowance of Plum Creek's claims.

32. *Payment Will Not Jeopardize Success of the Plan.* Although the amount of Plum Creek's claims are undetermined at present, they are likely to be insubstantial in comparison to the amount of the Debtors' total liabilities given that the Debtors' most recently filed monthly operating report shows that the Debtors have estimated total liabilities of \$3.555 billion. (Doc. # 24904, at 12.) Moreover, the Debtors' Amended Plan contemplates that property damage claims relating to the Debtors' mining, milling and processing of vermiculite will continue to arise against the Debtors postconfirmation, and for that reason, such claims and the assets to be used in payment of those claims are being transferred to a trust specifically

dealing with property damage claims. As a result, allowance of Plum Creek's claims will not jeopardize success of the Amended Plan.

33. *Allowance of Plum Creek's Claims Will Not Open the Floodgates.* The EPA Draft Report is targeted at a certain area of land (OU3) on which timber is located. To the knowledge of Plum Creek, there are only two other significant owners of timberlands within OU3, the U.S. Forest Service and the State of Montana. Accordingly, allowance of Plum Creek's claims will not open the floodgates for a significant number of other claimants.

34. *Additional Factors Favoring Allowance of Plum Creek's Late-Filed Claims.*

(a) *The Debtor's Delay.* Courts in the Third Circuit have also considered a debtor's role in causing a creditor's delay in filing its claim. Manus, 188 F.3d at 128; Chemetron Corp., 72 F.2d at 360. If, during the bankruptcy case, the Debtors reviewed or received any records indicating that Plum Creek might have a claim against the Debtors, it was the Debtors' obligation to amend their schedules to list Plum Creek as a creditor. See, e.g., In re Coastal Plains, Inc., 179 F.3d 197, 207-08 (5th Cir. 1999); see generally Collier on Bankruptcy, ¶ 521.07, at 521-31 (16th ed. 2009). Furthermore, the Debtors would have had an obligation to provide Plum Creek with notice of any amendment listing Plum Creek as a creditor. See Fed. R. Bankr. P. 1009(a). Here, to Plum Creek's knowledge, and the Debtors' counsel concedes, the Debtors did not provide Plum Creek with any actual notice of the bankruptcy proceedings (whether notice of the Bar Date, an amendment to the bankruptcy schedules listing Plum Creek as a creditor, or otherwise.)

(b) *Length of Delay Overall.* In Manus, the Third Circuit held that the length of delay must be considered in "absolute terms," not merely the "delay's effect on the judicial proceedings." 188 F.3d at 130. As a result, even a near three-year delay in filing a claim can be insignificant under circumstances where the judicial proceedings have not been unduly delayed. See, e.g., Inacom, 2004 WL 2283599, at *6-*7. Although Plum Creek is filing its claims several years after the Bar Date, there has been no confirmation order and allowance of

the claims will have no material impact on the judicial proceedings, in part because the Amended Plan itself provides a procedure for the allowance and payment of even later-filed claims. Thus, the Amended Plan clearly contemplates parties like Plum Creek. Based upon the Debtors' Motion for Entry of An Order Seeking the Estimation of Asbestos Claims and Certain Related Relief (the "Estimation Motion"), the Debtors indicated that they do not intend to litigate property damage claims until after confirmation of the plan. (Doc. # 6899, at 34.) To the knowledge of Plum Creek, the trust that is to take responsibility with respect to the determination and payment of property damage claims does not yet exist because no confirmation order has yet been entered.

(c) *Plum Creek's Good Faith.* Plum Creek has acted in good faith. Promptly upon learning of the EPA Draft Report, Plum Creek contacted the Debtors' counsel to advise them of it and the prospect that Plum Creek would be filing proofs of claim. The Debtors' counsel advised that the Debtors had no objection to Plum Creek proceeding to file its proofs of claim, followed by this Motion.

35. The Debtors have asserted that "the central task in these Chapter 11 cases has always been to define the debtors' true liability to Asbestos Claimants." (Doc. # 6899, at 2.) Based upon the circumstances here and the novel issue triggered by the EPA's Draft Report issued in the past two months, Plum Creek's proofs of claim, as originally filed and as amended, should be allowed as being timely filed.

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CONCLUSION

36. Based upon the equitable concerns set forth above, Plum Creek respectfully requests that the Court enter the attached proposed Order, allowing as timely the proofs of claim submitted by Plum Creek Timberlands, L.P., as originally filed and as amended, together with any other relief the Court deems just and equitable.

Dated: Seattle, Washington
July 1, 2010

Respectfully submitted,

MILLER NASH LLP

/s/ John R. Knapp, Jr.

John R. Knapp, Jr. (Del. I.D. No. 3681)

4400 Two Union Square

601 Union Street

Seattle, Washington 98101

Telephone: (206) 622-8484

Facsimile: (206) 622-7485

Attorneys for Plum Creek Timberlands, L.P.

SUMMARY SHEET

Exhibit A: Notice of Hearing

Exhibit B: Proposed Order Granting Motion

Exhibit C: Declaration of Rosemary Daszkiewicz

Exhibit D: Declaration of Gregg D. Johnson

Exhibit E: Declaration of John R. Knapp, Jr.

W.R. Grace & Co., et al.
Case No. 01-01139 (JKF)

Exhibit C

IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE

In re:

W.R. GRACE & CO., et al.,

Debtors.

Chapter 11

Case No. 01-01139 (JKF)
(Jointly Administered)

DECLARATION OF ROSEMARY DASZKIEWICZ

I, Rosemary Daszkiewicz, hereby declare and testify under penalty of perjury as follows:

1. I am over eighteen years of age and believe the statements contained herein are true based on my personal knowledge.

2. I am a licensed attorney in the State of Washington employed by Plum Creek Timber Company, Inc. as Senior Director of its Law Department, and in connection with my employment, I act as counsel to its wholly-owned subsidiary, Plum Creek Timberlands, L.P.

3. After learning that the United States Environmental Protection Agency prepared a draft report dated May 6, 2010 (the "EPA Draft Report") raising the prospect that Plum Creek's timber in the vicinity of Libby, Montana might be unsafe to log because of the potential presence of asbestos material imbedded into the bark of our timber, I conferred with certain employees and reviewed certain records maintained by Plum Creek. To my knowledge, Plum Creek received no notices in the bankruptcy case, including but not limited to any notice of the date by which claims had to be filed against the Debtors.

4. I have reviewed the EPA Draft Report which discusses the Libby, Montana "Superfund Site" and identifies a geographic area known as Operable Unit 3, or "OU 3." Plum Creek owns approximately 5,000 – 6,000 acres of timberlands within OU 3, and a total of approximately 30,000 acres in the vicinity of Libby. There are only a few major property owners within OU 3, those being the US Forest Service and Plum Creek.

5. Plum Creek has not been a party to discussions between the EPA and WR Grace and its affiliates regarding the Libby Superfund Site or any remediation work to be performed within OU 3. Specifically regarding the "Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study" dated September 7, 2007, by and between W.R. Grace, Kootenai Development Company and the EPA (the "2007 Agreement"), Plum Creek is not a party to that Agreement, was not privy to negotiations regarding it, and to my knowledge, Plum Creek had no advance notice regarding it except such notice, if any, as may have appeared generally in the newspapers.

6. After Plum Creek learned of the EPA Draft Report on or about May 21, 2010, and the prospect that its timber within OU 3 might be unusable if certain levels of asbestos material are determined to be imbedded into the bark, I retained outside bankruptcy counsel and authorized such counsel to contact Debtors' bankruptcy counsel regarding the EPA Draft Report and the prospect that Plum Creek might hold claim(s) against Debtors.

7. Because the EPA Draft Report was issued in the past several weeks, Plum Creek has not had sufficient opportunity to determine the scope and extent of its potential claims against Debtors. Believing it was appropriate to advise Debtors promptly upon learning of the EPA Draft Report and the prospect that Plum Creek may holds claims against Debtors, I authorized the filing of a proof of claim against WR Grace - Connecticut and Kootenai Development Company, the two entities which are parties to the 2007 Agreement with the EPA. Under the circumstances, Plum Creek's claims are filed in amounts which are contingent and unliquidated.

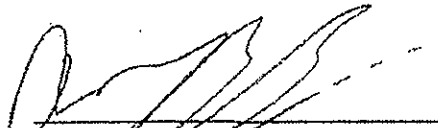
8. Although the amount of Plum Creek's claims is speculative at this time, I have asked appropriate Plum Creek employees to prepare an estimate of the value of the timber per acre in OU3. I will be on vacation from Jun 29 to July 15 and not reachable during that time. I have asked that the information be provided to our counsel in my absence, so that counsel can present it to the Court.

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I declare under penalty of perjury that the foregoing is true and correct to the best
of my knowledge.

DATED: June ²⁸ 2010
Seattle, Washington



Rosemary Daszkiewicz, Esq.
Senior Director, Law
999 Third Avenue, Suite 4300
Seattle, WA 98104

W.R. Grace & Co., et al.
Case No. 01-01139 (JKF)

Exhibit E

IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE

In re:

W.R. GRACE & CO., et al.,

Debtors.

Chapter 11

Case No. 01-01139 (JKF)
(Jointly Administered)

Hearing Date: August 9, 2010, 10:00 a.m. (EDT)

Objection Date: July 23, 2010

**DECLARATION OF JOHN R. KNAPP, JR. IN SUPPORT OF MOTION OF PLUM
CREEK TIMBERLANDS, L.P. TO ALLOW LATE FILING OF PROOFS OF CLAIM**

I, John R. Knapp, Jr., hereby declare and testify under penalty of perjury as follows:

1. I am a partner in the law firm of Miller Nash LLP, having law offices in Seattle and Vancouver, Washington, and Portland, Bend, and Prineville, Oregon, and an attorney for Plum Creek Timberlands, L.P. ("Plum Creek"). I am over the age of eighteen (18), have personal knowledge of and am competent to testify regarding the matters addressed herein.

2. On or before June 30, 2010, I was authorized by Rosemary Daszkiewicz, Senior Director Law, to submit in this bankruptcy proceeding the two amended proofs of claim attached hereto as Exhibit A and Exhibit B. On June 30, 2010, I caused such proofs of claim to be sent via FedEx to Rust Consulting. The amended proofs of claim were received by Rust Consulting on July 1, 2010, and were signed for by B. Hanson.

I declare under penalty of perjury of the laws of the State of Washington that the foregoing is true and correct.

EXECUTED this 1st day of July, 2010, at Seattle, Washington.

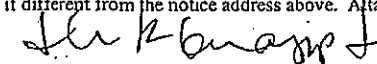
/s/ John R. Knapp, Jr.

John R. Knapp, Jr.

W.R. Grace & Co., et al.
Case No. 01-01139 (JKF)

Exhibit A
(to declaration of John R. Knapp, Jr.)

FORM B10 (Official Form 10) (04/10)

UNITED STATES BANKRUPTCY COURT DISTRICT OF DELAWARE		AMENDED PROOF OF CLAIM
Name of Debtor WR Grace & Co. - Connecticut	Case Number 01-01140-JKF	
<i>NOTE: This form should not be used to make a claim for an administrative expense arising after the commencement of the case. A "request" for payment of an administrative expense may be filed pursuant to 11 U.S.C. § 503</i>		
Name of Creditor (the person or other entity to whom the debtor owes money or property): Plum Creek Timberlands, L.P. (corrected name)	<input checked="" type="checkbox"/> Check this box to indicate that this claim amends a previously filed claim Court Claim Number: _____ (If known) Filed on: <u>6/7/2010</u> by <u>Plum Creek Timber Company, Inc.</u>	
Name and address where notices should be sent: John R. Knapp, Jr. Miller Nash LLP 601 Union St #4400 Seattle WA 98101 Telephone number: 206.622.8484	<input type="checkbox"/> Check this box if you are aware that anyone else has filed a proof of claim relating to your claim. Attach copy of statement giving particulars. <input type="checkbox"/> Check this box if you are the debtor or trustee in this case	
Name and address where payment should be sent (if different from above): Rosemary Daszkiewicz, Esq. Plum Creek Timber Co., Inc. 999 Third Ave #4300 Seattle WA 98104 Telephone number: 206.467.3667	<input type="checkbox"/> Check this box if you are aware that anyone else has filed a proof of claim relating to your claim. Attach copy of statement giving particulars. <input type="checkbox"/> Check this box if you are the debtor or trustee in this case	
1. Amount of Claim as of Date Case Filed: <u>\$ See Exhibit A to previously filed claim</u> If all or part of your claim is secured, complete item 4 below; however, if all of your claim is unsecured, do not complete item 4. If all or part of your claim is entitled to priority, complete item 5. <input type="checkbox"/> Check this box if claim includes interest or other charges in addition to the principal amount of claim. Attach itemized statement of interest or charges	5. Amount of Claim Entitled to Priority under 11 U.S.C. § 507(a). If any portion of your claim falls in one of the following categories, check the box and state the amount. Specify the priority of the claim. <input type="checkbox"/> Domestic support obligations under 11 U.S.C. § 507(a)(1)(A) or (a)(1)(B). <input type="checkbox"/> Wages, salaries, or commissions (up to \$11,725*) earned within 180 days before filing of the bankruptcy petition or cessation of the debtor's business, whichever is earlier - 11 U.S.C. § 507(a)(4). <input type="checkbox"/> Contributions to an employee benefit plan - 11 U.S.C. § 507(a)(5). <input type="checkbox"/> Up to \$2,600* of deposits toward purchase, lease, or rental of property or services for personal, family, or household use - 11 U.S.C. § 507(a)(7). <input type="checkbox"/> Taxes or penalties owed to governmental units - 11 U.S.C. § 507(a)(8). <input type="checkbox"/> Other - Specify applicable paragraph of 11 U.S.C. § 507(a)() Amount entitled to priority: \$ _____	
2. Basis for Claim: <u>See Exhibit A to previously filed claim</u> (See instruction #2 on reverse side)		
3. Last four digits of any number by which creditor identifies debtor: _____ 3a. Debtor may have schedule account as: _____ (See instruction #3a on reverse side)		
4. Secured Claim (See instruction #4 on reverse side) Check the appropriate box if your claim is secured by a lien on property or a right of setoff and provide the requested information. Nature of property or right of setoff: <input type="checkbox"/> Real Estate <input type="checkbox"/> Motor Vehicle <input type="checkbox"/> Other Describe: Value of Property: \$ _____ Annual Interest Rate _____ % Amount of arrearage and other charges as of time case filed included in secured claim, if any: \$ _____ Basis for perfection: _____ Amount of Secured Claim: \$ _____ Amount Unsecured: \$ _____		
6. Credits: The amount of all payments on this claim has been credited for the purpose of making this proof of claim. 7. Documents: Attach redacted copies of any documents that support the claim, such as promissory notes, purchase orders, invoices, itemized statements of running accounts, contracts, judgments, mortgages, and security agreements. You may also attach a summary. Attach redacted copies of documents providing evidence of perfection of a security interest. You may also attach a summary. (See definition of "redacted" on reverse side.) DO NOT SEND ORIGINAL DOCUMENTS. ATTACHED DOCUMENTS MAY BE DESTROYED AFTER SCANNING. If the documents are not available, please explain:	Amount entitled to priority: \$ _____ *Amounts are subject to adjustment on 4/1/10 and every 3 years thereafter with respect to cases commenced on or after the date of adjustment	
Date: 6-30-2010	Signature: The person filing this claim must sign it. Sign and print name and title, if any, of the creditor or other person authorized to file this claim and state address and telephone number if different from the notice address above. Attach copy of power of attorney, if any.  John R. Knapp, Jr., Del. I.D. #3681, Attorneys for Claimant	
Penalty for presenting fraudulent claim: Fine of up to \$500,000 or imprisonment for up to 5 years, or both. 18 U.S.C. §§ 152 and 3571.		FOR COURT USE ONLY

INSTRUCTIONS FOR PROOF OF CLAIM FORM

The instructions and definitions below are general explanations of the law. In certain circumstances, such as bankruptcy cases not filed voluntarily by the debtor, there may be exceptions to these general rules

Items to be completed in Proof of Claim form**Court, Name of Debtor, and Case Number:**

Fill in the federal judicial district where the bankruptcy case was filed (for example, Central District of California), the bankruptcy debtor's name, and the bankruptcy case number. If the creditor received a notice of the case from the bankruptcy court, all of this information is located at the top of the notice.

Creditor's Name and Address:

Fill in the name of the person or entity asserting a claim and the name and address of the person who should receive notices issued during the bankruptcy case. A separate space is provided for the payment address if it differs from the notice address. The creditor has a continuing obligation to keep the court informed of its current address. See Federal Rule of Bankruptcy Procedure (FRBP) 2002(g).

1. Amount of Claim as of Date Case Filed:

State the total amount owed to the creditor on the date of the Bankruptcy filing. Follow the instructions concerning whether to complete items 4 and 5. Check the box if interest or other charges are included in the claim.

2. Basis for Claim:

State the type of debt or how it was incurred. Examples include goods sold, money loaned, services performed, personal injury/wrongful death, car loan, mortgage note, and credit card.

3. Last Four Digits of Any Number by Which Creditor Identifies Debtor:

State only the last four digits of the debtor's account or other number used by the creditor to identify the debtor.

3a. Debtor May Have Scheduled Amount As:

Use this space to report a change in the creditor's name, a transferred claim, or any other information that clarifies a difference between this proof of claim and the claim as scheduled by the debtor.

4. Secured Claim:

Check the appropriate box and provide the requested information if the claim is fully or partially secured. Skip this section if the claim is entirely unsecured. (See DEFINITIONS, below.) State the type and the value of property that secures the claim; attach copies of lien

documentation, and state annual interest rate and the amount past due on the claim as of the date of the bankruptcy filing.

5. Amount of Claim Entitled to Priority Under 11 U.S.C. § 507(a):

If any portion of your claim falls in one or more of the listed categories, check the appropriate box(es) and state the amount entitled to priority. (See DEFINITIONS, below.) A claim may be partly priority and partly non-priority. For example, in some of the categories, the law limits the amount entitled to priority.

6. Credits:

An authorized signature on this proof of claim serves as an acknowledgment that when calculating the amount of the claim, the creditor gave the debtor credit for any payments received toward the debt.

7. Documents:

Attach to this proof of claim form redacted copies documenting the existence of the debt and of any lien securing the debt. You may also attach a summary. You must also attach copies of documents that evidence perfection of any security interest. You may also attach a summary. FRBP 3001(c) and (d). Do not send original documents; as attachments may be destroyed after scanning.

Date and Signature:

The person filing this proof of claim must sign and date it. FRBP 9011. If the claim is filed electronically, FRBP 5005(a)(2); authorizes courts to establish local rules specifying what constitutes a signature. Print the name and title, if any, of the creditor or other person authorized to file this claim. State the filer's address and telephone number if it differs from the address given on the top of the form for purposes of receiving notices: Attach a complete copy of any power of attorney. Criminal penalties apply for making a false statement on a proof of claim.

DEFINITIONS**Debtor**

A debtor is the person, corporation, or other entity that has filed a bankruptcy case.

Creditor

A creditor is the person, corporation, or other entity owed a debt by the debtor on the date of the bankruptcy filing.

Claim

A claim is the creditor's right to receive payment on a debt that was owed by the debtor on the date of the bankruptcy filing. See 11 U.S.C. § 101 (5). A claim may be secured or unsecured.

Proof of Claim

A proof of claim is a form used by the creditor to indicate the amount of the debt owed by the debtor on the date of the bankruptcy filing. The creditor must file the form with the clerk of the same bankruptcy court in which the bankruptcy case was filed.

Secured Claim Under 11 U.S.C. § 506(a)

A secured claim is one backed by a lien on property of the debtor. The claim is secured so long as the creditor has the right to be paid from the property prior to other creditors. The amount of the secured claim cannot exceed the value of the property. Any amount owed to the creditor in excess of the value of the property is an unsecured claim. Examples of liens on property include a mortgage on real estate or a security interest in a car.

A lien may be voluntarily granted by a debtor or may be obtained through a court proceeding. In some states, a court judgment is a lien. A claim also may be secured if the creditor owes the debtor money (has a right to setoff).

Unsecured Claim

An unsecured claim is one that does not meet the requirements of a secured claim. A claim may be partly unsecured if the amount of the claim exceeds the value of the property on which the creditor has a lien.

Claim Entitled to Priority Under 11 U.S.C. § 507(a)

Priority claims are certain categories of unsecured claims that are paid from the available money or property in a bankruptcy case before other unsecured claims.

Redacted

A document has been redacted when the person filing it has masked, edited out, or otherwise deleted, certain information. A creditor should redact and use only the last four digits of any social-security, individual's tax-identification, or financial-account number, all but the initials of a minor's name and only the year of any person's date of birth.

Evidence of Perfection

Evidence of perfection may include a mortgage, lien, certificate of title, financing statement, or other document showing that the lien has been filed or recorded.

INFORMATION**Acknowledgment of Filing of Claim**

To receive acknowledgment of your filing, you may either enclose a stamped self-addressed envelope and a copy of this proof of claim or you may access the court's PACER system (www.pacer.psc.uscourts.gov) for a small fee to view your filed proof of claim.

Offers to Purchase a Claim

Certain entities are in the business of purchasing claims for an amount less than the face value of the claims. One or more of these entities may contact the creditor and offer to purchase the claim. Some of the written communications from these entities may easily be confused with official court documentation or communications from the debtor. These entities do not represent the bankruptcy court or the debtor. The creditor has no obligation to sell its claim. However, if the creditor decides to sell its claim, any transfer of such claim is subject to FRBP 3001(e), any applicable provisions of the Bankruptcy Code (11 U.S.C. § 101 et seq.), and any applicable orders of the bankruptcy court.

In re WR Grace & Co. - Connecticut

Case No. 01-01140-JKF

Attachment to Amended Proof of Claim filed by Plum Creek Timberlands, L.P.

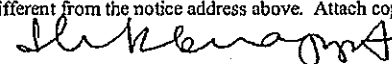
On or about June 7, 2010, Plum Creek Timber Company, Inc., filed a proof of claim in an unknown amount and attached extensive documentation in support of the claim and which is incorporated herein by this reference. After the claim was filed, Plum Creek Timber Company, Inc., determined that its name on the claim was incorrect, and therefore files this amended proof of claim only to correct the name of the claimant, to Plum Creek Timberlands, L.P.

Plum Creek Timberlands, L.P., is in the process of filing a motion for leave to file a late claim, based on the recent draft report issued by the EPA which gives rise the claim and which is attached to the June 7, 2010, proof of claim.

W.R. Grace & Co., et al.
Case No: 01-01139 (JKF)

Exhibit B
(to declaration of John R. Knapp, Jr.)

FORM B10 (Official Form 10) (04/10)

UNITED STATES BANKRUPTCY COURT DISTRICT OF DELAWARE		AMENDED PROOF OF CLAIM
Name of Debtor Kootenai Development Company	Case Number 01-01186-JKF	
NOTE: This form should not be used to make a claim for an administrative expense arising after the commencement of the case. A "request" for payment of an administrative expense may be filed pursuant to 11 U.S.C. § 503		
Name of Creditor (the person or other entity to whom the debtor owes money or property): Plum Creek Timberlands, L.P. (corrected name)	<input checked="" type="checkbox"/> Check this box to indicate that this claim amends a previously filed claim Court Claim Number: _____ (If known) Filed on: <u>6/7/2010</u> by <u>Plum Creek Timber Company, Inc.</u>	
Name and address where notices should be sent: John R. Knapp, Jr. Miller Nash LLP 601 Union St #4400 Seattle, WA 98101 Telephone number: 206.622.8484	<input type="checkbox"/> Check this box if you are aware that anyone else has filed a proof of claim relating to your claim. Attach copy of statement giving particulars. <input type="checkbox"/> Check this box if you are the debtor or trustee in this case	
Name and address where payment should be sent (if different from above): Rosemary Daszkiewicz, Esq. Plum Creek Timber Co., Inc. 999 Third Ave #4300 Seattle WA 98104 Telephone number: 206.467.3667	<input type="checkbox"/> Check this box if you are aware that anyone else has filed a proof of claim relating to your claim. Attach copy of statement giving particulars. <input type="checkbox"/> Check this box if you are the debtor or trustee in this case	
1. Amount of Claim as of Date Case Filed: <u>\$ See Exhibit A to previously filed claim</u> If all or part of your claim is secured, complete item 4 below; however, if all of your claim is unsecured, do not complete item 4. If all or part of your claim is entitled to priority, complete item 5. <input type="checkbox"/> Check this box if claim includes interest or other charges in addition to the principal amount of claim. Attach itemized statement of interest or charges	5. Amount of Claim Entitled to Priority under 11 U.S.C. § 507(a). If any portion of your claim falls in one of the following categories, check the box and state the amount. Specify the priority of the claim. <input type="checkbox"/> Domestic support obligations under 11 U.S.C. § 507(a)(1)(A) or (a)(1)(B). <input type="checkbox"/> Wages, salaries, or commissions (up to \$11,725*) earned within 180 days before filing of the bankruptcy petition or cessation of the debtor's business, whichever is earlier - 11 U.S.C. § 507(a)(4). <input type="checkbox"/> Contributions to an employee benefit plan - 11 U.S.C. § 507(a)(5). <input type="checkbox"/> Up to \$2,600* of deposits toward purchase, lease, or rental of property or services for personal, family, or household use - 11 U.S.C. § 507(a)(7). <input type="checkbox"/> Taxes or penalties owed to governmental units - 11 U.S.C. § 507(a)(8). <input type="checkbox"/> Other - Specify applicable paragraph of 11 U.S.C. § 507(a)() Amount entitled to priority: \$ _____	
2. Basis for Claim: <u>See Exhibit A to previously filed claim</u> (See instruction #2 on reverse side)		
3. Last four digits of any number by which creditor identifies debtor: _____ 3a. Debtor may have schedule account as: _____ (See instruction #3a on reverse side)		
4. Secured Claim (See instruction #4 on reverse side) Check the appropriate box if your claim is secured by a lien on property or a right of setoff and provide the requested information. Nature of property or right of setoff: <input type="checkbox"/> Real Estate <input type="checkbox"/> Motor Vehicle <input type="checkbox"/> Other Describe: Value of Property: \$ _____ Annual Interest Rate _____ % Amount of arrearage and other charges as of time case filed included in secured claim, if any: \$ _____ Basis for perfection: _____ Amount of Secured Claim: \$ _____ Amount Unsecured: \$ _____		
6. Credits: The amount of all payments on this claim has been credited for the purpose of making this proof of claim.		
7. Documents: Attach redacted copies of any documents that support the claim, such as promissory notes, purchase orders, invoices, itemized statements of running accounts, contracts, judgments, mortgages, and security agreements. You may also attach a summary. Attach redacted copies of documents providing evidence of perfection of a security interest. You may also attach a summary. (See definition of "redacted" on reverse side.) DO NOT SEND ORIGINAL DOCUMENTS: ATTACHED DOCUMENTS MAY BE DESTROYED AFTER SCANNING. If the documents are not available, please explain:	*Amounts are subject to adjustment on 4/1/10 and every 3 years thereafter with respect to cases commenced on or after the date of adjustment	
Date: <u>6-30-2010</u> Signature: The person filing this claim must sign it. Sign and print name and title, if any, of the creditor or other person authorized to file this claim and state address and telephone number if different from the notice address above. Attach copy of power of attorney, if any.  John R. Knapp, Jr., Del. I.D. # 3681, Attorney for Claimant	FOR COURT USE ONLY	

INSTRUCTIONS FOR PROOF OF CLAIM FORM

The instructions and definitions below are general explanations of the law. In certain circumstances, such as bankruptcy cases not filed voluntarily by the debtor, there may be exceptions to these general rules

Items to be completed in Proof of Claim form**Court, Name of Debtor, and Case Number:**

Fill in the federal judicial district where the bankruptcy case was filed (for example, Central District of California), the bankruptcy debtor's name, and the bankruptcy case number. If the creditor received a notice of the case from the bankruptcy court, all of this information is located at the top of the notice.

Creditor's Name and Address:

Fill in the name of the person or entity asserting a claim and the name and address of the person who should receive notices issued during the bankruptcy case. A separate space is provided for the payment address if it differs from the notice address. The creditor has a continuing obligation to keep the court informed of its current address. See Federal Rule of Bankruptcy Procedure (FRBP) 2002(g).

1. Amount of Claim as of Date Case Filed:

State the total amount owed to the creditor on the date of the Bankruptcy filing. Follow the instructions concerning whether to complete items 4 and 5. Check the box if interest or other charges are included in the claim.

2. Basis for Claim:

State the type of debt or how it was incurred. Examples include goods sold, money loaned, services performed, personal injury/wrongful death, car loan, mortgage note, and credit card.

3. Last Four Digits of Any Number by Which Creditor Identifies Debtor:

State only the last four digits of the debtor's account or other number used by the creditor to identify the debtor.

3a. Debtor May Have Scheduled Amount As:

Use this space to report a change in the creditor's name, a transferred claim, or any other information that clarifies a difference between this proof of claim and the claim as scheduled by the debtor.

4. Secured Claim:

Check the appropriate box and provide the requested information if the claim is fully or partially secured. Skip this section if the claim is entirely unsecured. (See DEFINITIONS, below.) State the type and the value of property that secures the claim, attach copies of lien

documentation, and state annual interest rate and the amount past due on the claim as of the date of the bankruptcy filing.

5. Amount of Claim Entitled to Priority Under 11 U.S.C. § 507(a):

If any portion of your claim falls in one or more of the listed categories, check the appropriate box(es) and state the amount entitled to priority. (See DEFINITIONS, below.) A claim may be partly priority and partly non-priority. For example, in some of the categories, the law limits the amount entitled to priority.

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Priority claims are certain categories of unsecured claims that are paid from the available money or property in a bankruptcy case before other unsecured claims.

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In re Kootenai Development Company

Case No. 01-01186-JKF

Attachment to Amended Proof of Claim filed by Plum Creek Timberlands, L.P.

On or about June 7, 2010, Plum Creek Timber Company, Inc., filed a proof of claim in an unknown amount and attached extensive documentation in support of the claim and which is incorporated herein by this reference. After the claim was filed, Plum Creek Timber Company, Inc., determined that its name on the claim was incorrect, and therefore files this amended proof of claim only to correct the name of the claimant, to Plum Creek Timberlands, L.P.

Plum Creek Timberlands, L.P., is in the process of filing a motion for leave to file a late claim, based on the recent draft report issued by the EPA which gives rise the claim and which is attached to the June 7, 2010, proof of claim.

EXHIBIT E

~~-DRAFT-~~

Site-wide Human Health Risk Assessment -EXECUTIVE SUMMARY-

**Libby Asbestos Superfund Site
Libby, Montana**



December 2014

**CDM
Smith**

- DRAFT -

**Site-wide Human Health Risk Assessment
-EXECUTIVE SUMMARY-
Libby Asbestos Superfund Site
Libby, Montana**

December 2014

Prepared for:



U.S. Environmental Protection Agency, Region 8

Prepared by:



CDM Federal Programs Corporation

Under a contract with:



U.S. Army Corps of Engineers, Omaha District
Contract No. W9128F-11-D-0023
Task Order No.: 0007

With technical input from:

SRC, Inc.
Tetra Tech EM Inc.

EXECUTIVE SUMMARY

Introduction

Libby is a community in northwestern Montana that is located near a former vermiculite mine (**Figure ES-1**). The vermiculite mine near Libby began limited operations in the 1920s and was operated on a larger scale by the W.R. Grace Company (Grace) from approximately 1963 to 1990. Vermiculite from the mine contains varying concentrations of amphibole asbestos, referred to as “Libby amphibole asbestos” or LA. Epidemiological studies revealed that workers at the mine had an increased risk of developing asbestos-related lung disease (McDonald *et al.* 1986a, 1986b, 2004; Amandus and Wheeler 1987; Amandus *et al.* 1987a,b; Whitehouse 2004; Sullivan 2007). Additionally, radiographic abnormalities were observed in 17.8 percent (%) of the general population of Libby, including former workers, family members of workers, and other residents of Libby and Troy, Montana (Peipins *et al.* 2003; Whitehouse *et al.* 2008; Antao *et al.* 2012; Larson *et al.* 2010, 2012a, 2012b).

In October 2002, the Libby Asbestos Superfund Site (Site) was listed on the U.S. Environmental Protection Agency (EPA) National Priorities List (NPL). The Site includes homes and businesses that may have become contaminated with LA as a result of the vermiculite mining and processing conducted in and around Libby, as well as other areas that may have been affected by mining-related releases of LA. In addition to vermiculite mining and processing activities, LA contamination also occurred as a consequence of use of LA-contaminated vermiculite as building insulation in residential and commercial buildings and as soil amendments (e.g., gardens and flowerbeds), use of LA-contaminated building materials (e.g., mortar, chinking), and other uses.

The purpose of this document is to quantify potential human health risks from exposures to LA at the Site under current and future conditions. This risk assessment differs from other “typical” Superfund risk assessments in that extensive interior and exterior removal actions have been conducted at the Site for more than 10 years, prior to the completion of the risk assessment, to allow for the timely removal of LA contamination while awaiting the necessary exposure and toxicity data needed to complete a quantitative assessment of human health risk. Results of this risk assessment are intended to help Site managers determine if past removal actions have been sufficient to mitigate risk, if additional remedial actions are necessary to address risks, and if so, which exposure pathways would need to be addressed in future remedial actions.

Exposure Assessment

Conceptual Site Model

Historical mining, milling, and processing operations, use of vermiculite in building materials, transport of mining-related materials, tailings, and waste, and runoff from the mine site are known to have released LA to the environment. People may be exposed to LA by two exposure routes: inhalation and ingestion. Of these two exposure routes, inhalation exposure of LA is considered to be of greatest concern.

Asbestos fibers in source materials are typically not inherently hazardous, unless the asbestos is released from the source material into air where it can be inhaled (EPA 2008). Asbestos fibers may become airborne in a number of ways. This may include natural forces, such as wind blowing over a contaminated soil, or human activities that disturb contaminated sources, such as soil or indoor dust.

Figure ES-2 presents the conceptual site model (CSM) that depicts how LA in source media can be transported in the environment to exposure media that humans may encounter at the Site. The two main types of exposure media are indoor air and outdoor air. **Table ES-1** summarizes the inhalation exposure pathways and populations that will be evaluated in the human health risk assessment (HHRA).

Exposure Parameters

The risk assessment evaluates potential inhalation exposures for several exposure populations, including residents, recreational visitors, teachers/students, and several types of workers (indoor workers, local tradespeople, outdoor workers). Exposure estimates in the risk assessment do not seek to evaluate exposures for specific individuals. Rather, risk estimates are calculated for representative members of the exposure population, calculating risks based on both members of the population with “typical” levels of exposure and members of the population with “high-end” exposures. These two exposure estimates are referred to as central tendency exposure (CTE) and reasonable maximum exposure (RME), respectively.

For each exposure scenario evaluated in the risk assessment, information on estimated exposure time (ET, in hours per day), exposure frequency (EF, in days per year), and exposure duration (ED, in years) is used to derive a lifetime time-weighting factor (TWF) as follows:

$$TWF = (ET/24 \cdot EF/365 \cdot ED/70)$$

The value of the TWF ranges from zero to one, and describes the average fraction of a lifetime during which the specific exposure scenario occurs.

Exposure Point Concentrations

Predicting the LA levels in air based on measured LA levels in source media is extremely difficult. For this reason, EPA recommends an empiric approach for investigating asbestos-contaminated Superfund sites, where concentrations of asbestos in air from source disturbances are measured rather than predicted (EPA 2008). This type of sampling is referred to as activity-based sampling (ABS).

To date, more than two dozen different ABS investigations have been conducted at the Site to evaluate potential exposures to LA from various disturbances of source media. These studies have included a wide range of activities, including, but not limited to, dusting and vacuuming inside residences, raking/mowing/digging in yard soil, riding all-terrain vehicles (ATVs), bicycling and driving on roads, and various worker activities. In total, more than 3,100 ABS air samples have been collected at the Site since 2001. In addition, more than 1,500 outdoor ambient air samples have been collected at the Site.

All ABS and ambient air samples have been analyzed by transmission electron microscopy (TEM). During the analysis, detailed information for each observed asbestos structure (e.g., asbestos type, structure type, length, width) is recorded. For the purposes of computing risk estimates, it is necessary to use the results from the TEM analysis to estimate what would have been detected had the sample been analyzed by phase contrast microscopy (PCM). This is because available toxicity information is based on workplace studies that used PCM as the primary method for analysis. For convenience, structures detected under TEM that meet the recording rules for PCM are referred to as PCM-equivalent (PCME) structures. TEM analysis results for air samples are expressed as PCME LA structures per cubic centimeter of air (s/cc).

In accordance with EPA asbestos risk assessment guidance (EPA 2008), exposure point concentrations (EPCs) for each exposure scenario are calculated as the sample mean, evaluating non-detect samples at a concentration value of zero. In cases where air filters required the use of indirect preparation techniques prior to TEM analysis, the reported PCME LA air concentration was adjusted (decreased) by a factor of 2.5 (Berry *et al.* 2014) to avoid potentially biasing calculated EPCs high due to the effect of indirect preparation.

Toxicity Assessment

The adverse effects of asbestos exposure in humans have been the subject of a large number of studies and publications. Exposure to asbestos may induce several types of both non-cancer and cancer effects. A detailed summary of the cancer and non-cancer effects of asbestos is provided in the Agency for Toxic Substances and Disease Registry (ATSDR) *Toxicological Profile for Asbestos* (ATSDR 2001) and in EPA's *Airborne Asbestos Health Assessment Update* (EPA 1986). A detailed summary of effects related specifically to LA is provided in the *Toxicological Review for Libby Amphibole Asbestos* (EPA 2014).

Cancer Effects

Many epidemiological studies have reported increased mortality from cancer in workers exposed to asbestos, especially from lung cancer and mesothelioma (tumor of the thin membrane that covers and protects the internal organs of the body). In addition, a number of studies suggest asbestos exposure may increase risk of cancer at various gastrointestinal sites. Based on these findings, and supported by extensive carcinogenicity data from animal studies, EPA has classified asbestos as a known human carcinogen.

Carcinogenic risk from inhalation exposure is determined based on an inhalation unit risk (IUR) value, which is defined as the excess lifetime cancer risk estimated to result from continuous exposure to one asbestos fiber per cubic centimeter of air (1 f/cc). The LA-specific IUR, referred to as IUR_{LA} , is derived from a cohort of workers employed at the vermiculite mining and milling operation in and around Libby, referred to as the "Libby worker cohort". The IUR_{LA} is $0.17 \text{ (PCM f/cc)}^{-1}$ (EPA 2014).

Non-Cancer Effects

Non-cancer effects from asbestos exposure include asbestosis (formation of scar tissue in the lung parenchyma) and several types of abnormalities in the pleura (the membrane surrounding the lungs), such as pleural effusions (excess fluid accumulation in the pleural space), pleural plaques (collagen deposits and calcification), and pleural thickening.

Non-cancer risks from inhalation exposure are determined based on a reference concentration (RfC) value. Exposures below the RfC are considered to be without risk of adverse non-cancer health effects, while exposures above the RfC may cause an effect, depending on the exposure level. The LA-specific RfC, referred to as RfC_{LA} , is derived from a cohort of workers employed at the O.M. Scott Plant in Marysville, Ohio. This plant utilized vermiculite ore that originated from the vermiculite mine in Libby from 1959 to 1980. Localized pleural thickening was selected as the critical effect endpoint for the derivation of the RfC_{LA} . The RfC_{LA} is 0.00009 PCM f/cc (EPA 2014).

Risk Characterization

Basic Equations

The basic equation used to estimate excess lifetime cancer risk from inhalation of LA is:

$$\text{Risk} = \text{EPC} \cdot \text{TWF} \cdot \text{IUR}_{\text{LA}}$$

where:

Risk = Lifetime excess risk of developing cancer (lung cancer or mesothelioma) as a consequence of LA exposure.

EPC = Exposure point concentration of LA in air (PCME LA s/cc). The EPC is an estimate of the long-term average concentration of LA in inhaled air for the specific activity being assessed.

TWF = Time-weighting factor for the specific activity being assessed.

IUR_{LA} = LA-specific inhalation unit risk ($0.17 \text{ PCM s/cc}^{-1}$)

The basic equation used for characterizing non-cancer hazards from inhalation exposures to LA is as follows:

$$\text{HQ} = \text{EPC} \cdot \text{TWF} / \text{RfC}_{\text{LA}}$$

where:

HQ = Hazard quotient for non-cancer effects from LA exposure

EPC = Exposure point concentration of LA in air (PCME LA s/cc)

TWF = Time-weighting factor

RfC_{LA} = LA-specific reference concentration (0.00009 PCM s/cc)

Risk Interpretation

In general, EPA considers cumulative excess cancer risks¹ that are below about $1\text{E-}06$ to be negligible, and risks above $1\text{E-}04$ to be sufficiently large that some form of remedial action is desirable. Excess cancer risks that range between $1\text{E-}04$ and $1\text{E-}06$ are generally considered to be acceptable, although this is evaluated on a case-by-case basis, and EPA may determine that risks lower than $1\text{E-}04$ are not sufficiently protective and warrant remedial action.

For non-cancer, if the cumulative HQ (referred to as the hazard index [HI]) is less than or equal to 1, then remedial action is generally not warranted. If the HI exceeds 1, there is some possibility that non-cancer effects may occur, although an HI above 1 does not indicate an effect will definitely occur. However, the larger the HI value, the more likely it is that an adverse effect may occur.

¹ Note that excess cancer risk can be expressed in several formats. A cancer risk expressed in a scientific notation format as $1\text{E-}06$ is equivalent to 1 in 1,000,000 (one in a million) or 1×10^{-6} . Similarly, a cancer risk of $1\text{E-}04$ is equivalent to 1 in 10,000 (one in ten thousand) or 1×10^{-4} .

Scenario-Specific Risk Characterization

Risks from Exposures to Ambient Air

In the past (circa 1970s), ambient air concentrations as high as 1.5 PCM f/cc were measured in downtown Libby when the mine was in operation. Beginning in 2006, there have been several long-term outdoor ambient air monitoring studies conducted in Libby, Troy, and at the mine site. These data show that average ambient air concentrations in the Libby community and in Troy are less than 0.00001 PCME LA s/cc under current conditions. Current ambient air concentrations at the Site are greatly improved relative to historical conditions and are consistent with asbestos levels that have been measured in ambient air in Eureka and Helena, Montana, as well as across the country (SRC, Inc. 2013).

Data from the recent ambient air monitoring studies at the Site were used to calculate EPCs for use in evaluating potential exposures to LA in ambient air. All individuals at the Site have the potential to be exposed to LA in ambient air. However, for simplicity, risk estimates from exposures to ambient air were calculated for each exposure area based on the maximally-exposed receptor (e.g., residential exposure scenario in Libby). RME cancer risks are at or below 1E-06 and non-cancer HQs are below 0.1 for all Site exposure locations; CTE cancer risks and non-cancer HQs are even lower. These results indicate that exposures to LA in ambient air are not likely to be of concern to individuals at the Site and are not likely to contribute significantly to cumulative risks.

Risks from Exposures During Soil/Duff Disturbances

Overview

Potential exposures to LA during disturbances of soil/duff can occur for a wide range of receptor types and exposure scenarios. More than 80 different types of exposures during soil/duff disturbances were evaluated, encompassing multiple disturbance activities, exposure populations, exposure locations, and LA concentrations. In reviewing the risk estimates for exposures during soil/duff disturbance activities, there are a number of general conclusions that can be drawn:

- Estimated cancer risks and non-cancer HQs span more than four orders of magnitude depending upon the exposure scenario.
- For a given exposure scenario, non-cancer HQs can exceed 1 even when cancer risks are less than 1E-04, which indicates that non-cancer exposure is a more sensitive metric of potential concern. (For LA, a non-cancer HQ of 1 is approximately equivalent to a cancer risk of 1E-05.)
- There were only a few soil/duff disturbance exposure scenarios where risks from the exposure pathway alone had the potential to be above a level of concern based on RME, including residential and outdoor worker exposures during disturbances of yard soils with detected LA at properties in Libby and Troy, outdoor worker exposures during disturbances of subsurface soils with LA contamination at properties in Libby and Troy, and recreational visitor exposures during disturbances of soil/duff while hiking along Rainy Creek.
- Quantitative risks were not calculated for potential exposures to trespassers in the mined area or for workers exposed to residual LA in subsurface soils in the former Screening Plant and Export Plant areas; however, these exposure scenarios are presumed to result in potentially significant exposures and risks.

- Exposure to LA in outdoor air during yard soil disturbances has the potential to be an important exposure scenario. Even when only trace levels of LA are present in the soil, this exposure scenario, when considered alone, could yield non-cancer HQs above 1, depending upon the spatial extent of the LA in soil and the frequency and intensity that these soils are disturbed.

Extrapolation to Properties without ABS

As noted above, exposure to LA in outdoor air during yard soil disturbances has the potential to be an important exposure pathway. There are more than 5,000 residential/commercial properties in Libby and Troy. Because it is not feasible to evaluate risks by conducting outdoor ABS at every property, it is necessary to use the measured ABS data from the properties where ABS has been performed to draw risk conclusions about properties where ABS has not been performed. This is accomplished by assuming that properties without ABS data, but having the same LA soil level and similar disturbance activities, will have similar outdoor air concentrations as properties with ABS data.

Table ES-2 presents estimated RME cancer risks and non-cancer HQs from exposures to LA during soil disturbances for a range of LA soil levels at residential properties in Libby and Troy. In interpreting these risk estimates, it is important to understand that these calculations are intended to represent a given LA soil concentration. However, a specified exposure area for a property may have varying LA soil concentrations with differing spatial extents. The evaluation of risk at a property is based on the average exposure across the entire exposure area. Thus, for exposure areas that encompass varying soil concentrations, it is necessary to derive a spatially-weighted average risk estimate for the entire exposure area. **Figure ES-3** presents a simplified example of this approach.

Background LA Concentrations in Soil

EPA has conducted several investigations at the Site to characterize LA in soil from areas that are thought to be representative of “background” conditions, meaning that the soils are not expected to be affected by anthropogenic releases from vermiculite mining and processing activities. LA structures have been consistently detected in background soils within the Kootenai Valley. However, potential exposures and risks from LA in background soil are likely to be low.

Risks from Exposures to Indoor Air

There are a wide range of different activities that could occur inside buildings (residences, businesses, schools, etc.) at the Site that could result in exposures to LA. There have been several indoor ABS investigations to evaluate LA concentrations in air during various indoor disturbance scenarios, including indoor exposures inside residences, schools, and commercial and industrial buildings in Libby and Troy. In general, ABS air samples were collected under two representative conditions – active and passive behaviors. Active behaviors include indoor activities in which a person is moving about the building and potentially disturbing indoor sources; such activities have included walking from room to room, sitting down on upholstered chairs, sweeping, and vacuuming. Passive behaviors are minimally energetic actions, such as sitting and reading a book, watching television, and working at a desk, that will have low tendency to disturb any indoor source materials. In addition, air samples were also collected to evaluate potential exposures to local tradespeople (e.g., carpenter, electrician, plumber) from high intensity disturbances of vermiculite insulation (VI) or other asbestos-containing building materials.

With the exception of indoor exposures at properties under “pre-removal” conditions and during tradesperson activities (discussed below), estimated RME cancer risks were below 1E-04 and non-cancer HQs were below 1 for all indoor exposure scenarios.

Estimated RME non-cancer HQs were greater than 1 for both residential exposures and indoor worker exposures to LA inside “pre-removal” properties (these are properties where an interior removal has been deemed necessary, but a removal had not been completed at the time of the ABS). Activities associated with active disturbance behaviors contributed most to total exposures. Non-cancer HQs were below 1 for properties where an interior removal has been completed (“post-removal”) and for properties where an interior removal was deemed not to be necessary (“no removal required”). These results demonstrate that interior investigations and removals have been effective at identifying and mitigating sources of LA inside properties.

Exposures of local tradespeople to LA while working inside buildings have the potential to result in RME cancer risks at or above $1E-04$ and non-cancer HQs above 1 for all the activities investigated, which included active disturbances of VI (e.g., wall demolition, attic detailing, cleaning living space areas with visible VI). These results indicate that local tradesperson exposures have the potential to be significant and result in risks above a level of concern if appropriate personal protective measures are not employed to mitigate exposures during active disturbances of indoor source materials. There is the potential for tradesperson exposures to occur, even for properties that have had an interior removal or where no interior removal has been deemed necessary, if source materials have been left in place (e.g., VI contained within walls).

Risks from Exposures during Disturbances of Wood-Related Materials

Extensive data have been collected in the forested area near the mine site and in the forested area near the current Site NPL boundary (CDM Smith 2013a, b). These data show that LA structures are present on the outer bark surface of trees at the Site. If LA-containing trees or wood-related materials (e.g., woodchips, mulch) are disturbed, people may be exposed to LA that is released to air from the wood. If LA-containing trees are used as a source of firewood (e.g., in a residential woodstove), studies have shown that LA fibers can become concentrated in the resulting ash (Ward *et al.* 2009; EPA 2012), which itself can become a source of potential LA exposure.

A number of ABS studies have been performed at the Site to provide measured data on LA concentrations in air during a variety of disturbances of wood-related materials, including ABS studies during residential wood harvesting activities, commercial logging activities, wood chipping activities, forest maintenance activities, woodchip/mulch disturbance activities, and woodstove ash disturbance activities. With the exception of activities related to commercial logging and the removal of ash from a woodstove (discussed below), estimated RME cancer risks were below $1E-04$ and non-cancer HQs were below 1 for all wood-related exposure scenarios.

When commercial logging activities were conducted in an area located near the mine with higher concentrations of LA in tree bark and duff, estimated RME cancer risks for all commercial logging activities were below $1E-04$, but non-cancer HQs were at or above 1 during timber skidding and site restoration activities. However, when commercial logging activities were conducted in an area further from the mine, where concentrations of LA in tree bark and duff were lower, estimated RME cancer risks were below $1E-04$ and non-cancer HQs were below 1 for all commercial logging activities.

Estimated RME non-cancer HQs for activities associated with the removal of ash from a woodstove differed depending on the source of the firewood that was burned. The estimated HQ was 1 when firewood was collected from a location near the mine (where tree bark LA levels are highest), but HQs were below 1 when firewood was collected from a location intermediate or far from the mine. RME cancer risks from exposure to LA in woodstove ash were below $1E-04$ regardless of the wood source.

These risk estimates demonstrate that exposures to LA in ash may contribute significantly to cumulative exposures, especially if the ash is derived from a wood source in close proximity to the mine.

Cumulative Risk Characterization

Basic Approach

The calculation of cumulative risks is complicated by the fact that the exposure pattern of each individual at the Site may be unique. However, EPA does not typically perform risk calculations for specific individuals, but rather for generic classes of receptor populations with common exposure patterns. Thus, the goal of the cumulative risk assessment is to illustrate how risk depends on different types of disturbance activities, LA levels in the source media, and exposure locations.

Cumulative risk from asbestos is expressed as the sum of all the cancer risks or non-cancer HQs from various types of asbestos exposure pathways. Exposure-specific TWF values for use in the cumulative assessment were selected by specifying the fraction of the lifetime spent engaging in each exposure scenario, taking care to ensure that the cumulative TWF is equal to 1.0. This approach is illustrated in **Figure ES-4**.

Cumulative Risk Examples

There are essentially an infinite number of possible exposure scenario combinations that could be evaluated in the cumulative risk assessment for the Site. The choice of which combinations to evaluate is a matter of judgment. For the purposes of this risk assessment, several alternate cumulative exposure scenario combinations were evaluated, representing a wide range of potential cumulative risks. These examples help to identify which exposure scenarios that tend to have the largest contribution to cumulative risk.

Figure ES-5 presents a graphical illustration of the cumulative assessment for one example receptor scenario. In this figure, the upper panel illustrates the fraction of time that each exposure pathway contributes to the total lifetime (i.e., a 70-year lifetime). The lower panel illustrates the contribution of each exposure pathway to the cumulative HI. The table below the figures provides a tabular presentation of the information shown in the two figures. (Note: This figure only presents cumulative HIs as the non-cancer endpoint appears to be the more sensitive metric of potential risk.)

In reviewing the cumulative exposure scenarios, several general observations can be made:

- Cumulative HI estimates were below 1 when exposures occurred at properties and locations with lower levels of LA. However, cumulative HI estimates were above 1 when exposures occurred at properties and locations with higher levels of LA.
- Exposure pathways that contributed the most time to the total lifetime exposure do not necessarily contribute most to the cumulative HI. In some cases, exposure pathways that contribute little to the total lifetime exposure time can contribute significantly to the cumulative HI. For example, in **Figure ES-5**, exposures to LA in outdoor air during disturbances of yard soil (exposure scenario "D") contributes about 5% to the total lifetime exposure time, but about 25% to the cumulative HI.
- When cumulative exposure includes exposure pathways that actively disturb LA-contaminated source materials (e.g., hiking along lower Rainy Creek near the mine site, disturbing soils with

detected LA, performing timber skidding operations near the mine site, or disturbing VI during tradesperson activities), these pathways are important risk drivers for cumulative HI estimates.

- It is possible to reduce cumulative exposures and risks, without altering activity behavior patterns, by lowering LA levels in source media where disturbance activities are performed (e.g., removing yard soil with LA) (see **Figure ES-6**) and/or by changing the locations where the activities are performed (e.g., collecting firewood or performing logging in areas further from the mine site) (see **Figure ES-7**).
- As illustrated in **Figure ES-8**, it is not necessary to address every single exposure pathway to significantly lower cumulative risk. Addressing exposures for small subset of the potential exposure pathways, focusing on risk drivers, will have the greatest impact in lowering cumulative exposures and risks.
- It is possible for individual exposure pathway HQs to be below 1, but the cumulative HI across all exposure pathways to be above 1. Thus, risk managers should consider both cumulative risks and individual exposure pathway risks to identify potential risk drivers to guide decisions on future remedial levels and/or institutional controls.

Uncertainty Assessment

As with all HHRA, uncertainties exist due to limitations in the exposure and toxicity assessments and our ability to accurately determine cumulative exposure and risk from multiple sources over a lifetime. This risk assessment has used the best available science to evaluate potential human health exposures and risks from LA at the Site; however, there are number of sources of uncertainty that affect the risk estimates that must be considered when making risk management decisions. The most important of these uncertainties are listed below.

- Uncertainty in true long-term average LA concentrations in air
- Uncertainty in the EPC due to non-detects
- Uncertainty due to air filter preparation methods
- Uncertainty due to analytical methods
- Uncertainty due to field collection methods
- Uncertainty in human exposure patterns
- Uncertainty in toxicity values used in risk characterization
- Uncertainty in the cumulative risk estimates

Because of these uncertainties, the cancer risks and non-cancer HQs for individual exposure scenarios are uncertain, and consequently all estimates of cumulative cancer risks and non-cancer HI values presented in this HHRA are also uncertain, and should be considered to be approximate. Actual risks may be either higher or lower than estimated.

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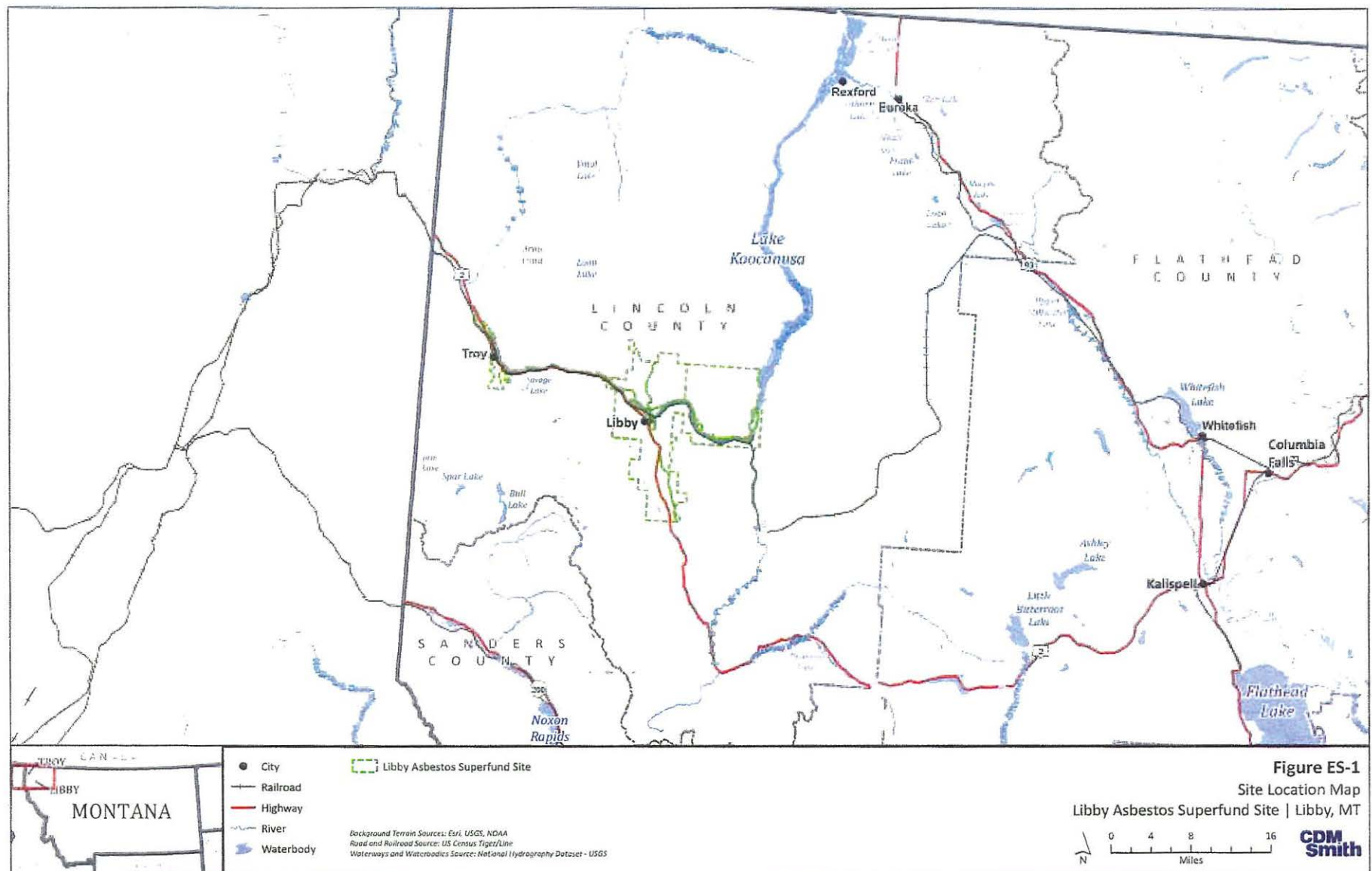
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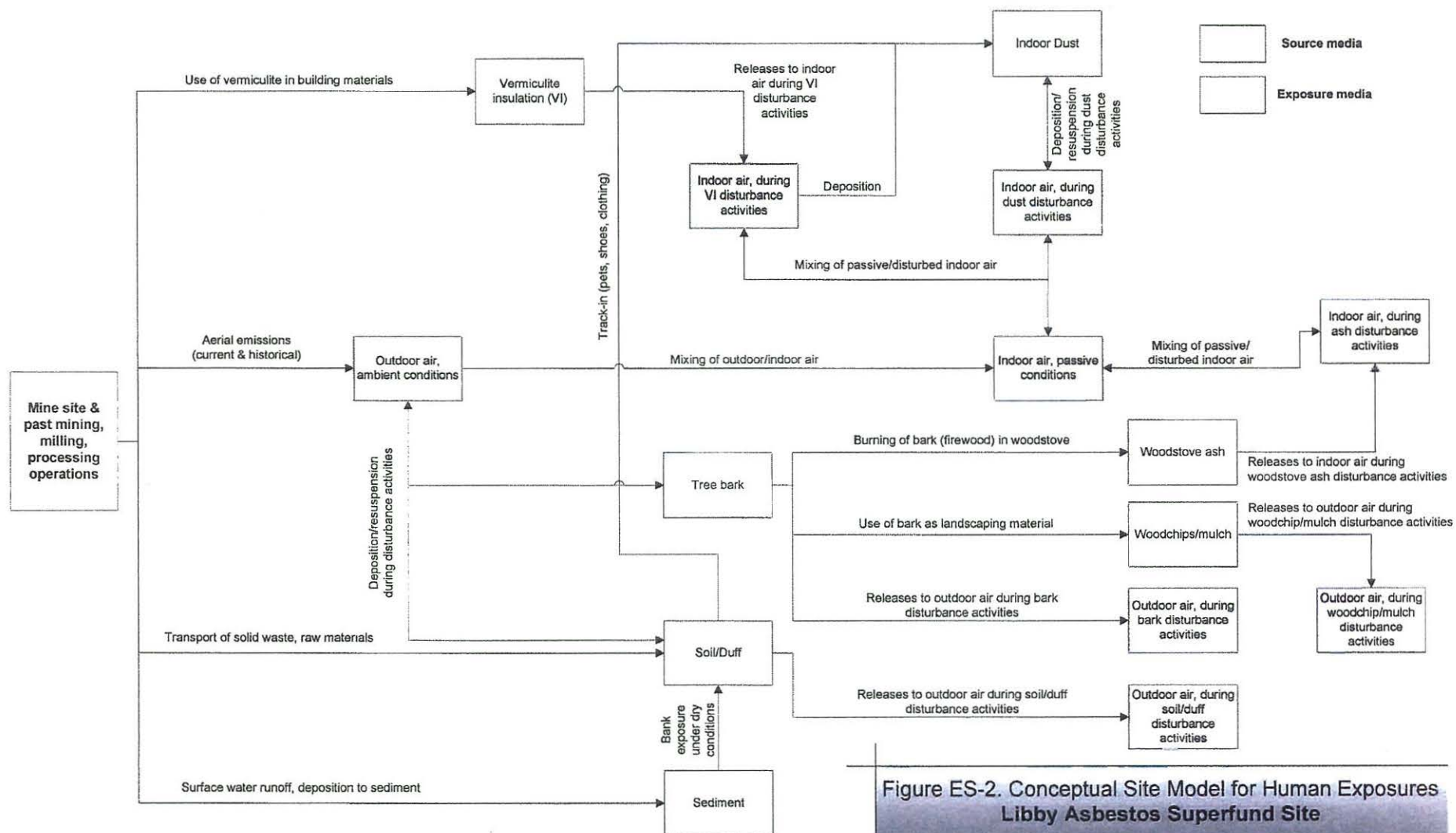
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TABLES AND FIGURES





**Figure ES-2. Conceptual Site Model for Human Exposures
Libby Asbestos Superfund Site**

FIGURE ES-3
Example of Exposure Area Spatial-Weighting Approach

Panel A: Exposure Area Soil Concentrations

<u>Soil Sample #1:</u> Non-detect	
<u>Soil Sample #2:</u> Trace (<0.2%)	<u>Soil Sample #3:</u> 1%

Panel B: Estimated HQs* for Each Area

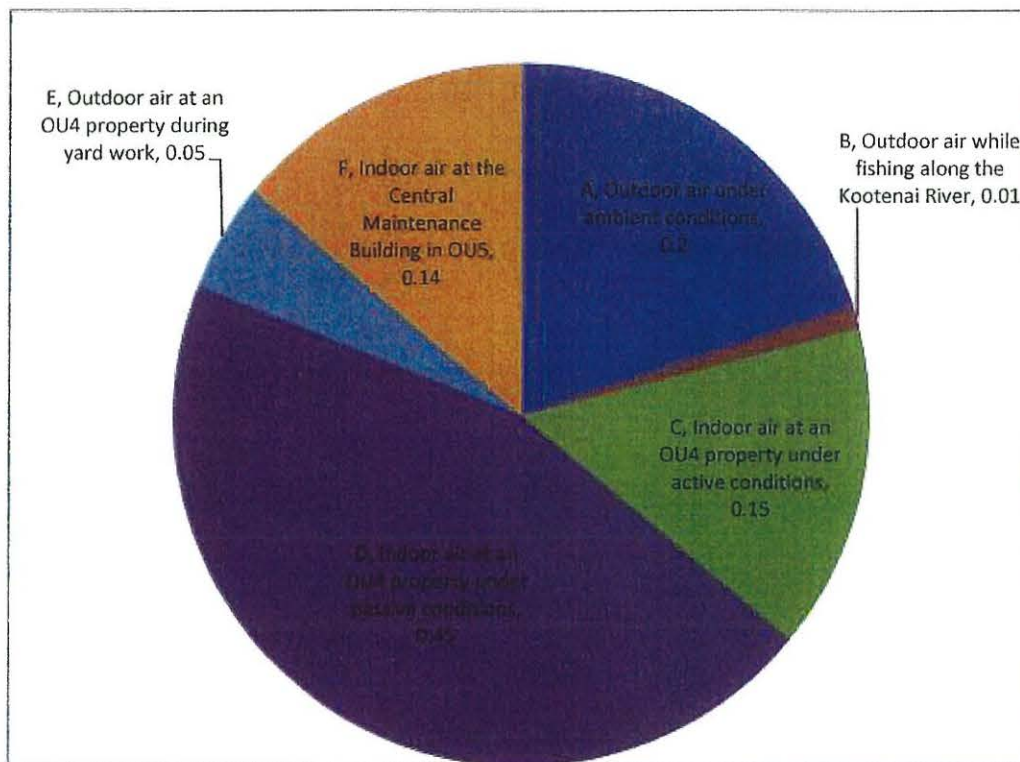
Non-detect Soil Concentration HQ = 0.1	
Trace (<0.2%) Soil Concentration HQ = 2	1% Soil Concentration HQ = 6

Panel C: Estimated Average HQ for the Entire Exposure Area

Exposure Area HQ = $(0.1 \cdot 0.5) +$ $(2 \cdot 0.25) +$ $(6 \cdot 0.25)$ = 2
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*Based on Libby Yard Soil Disturbance Residential HQs (see Table ES-2)

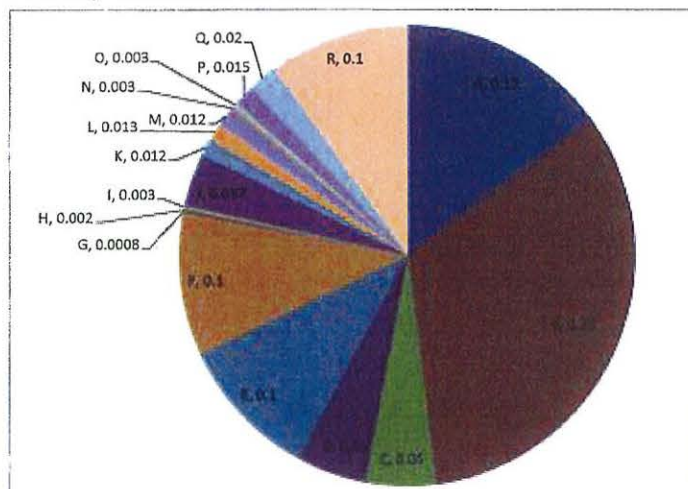
HQ = Hazard Quotient

FIGURE ES-4. ILLUSTRATION OF CUMULATIVE ASSESSMENT TWF APPROACH

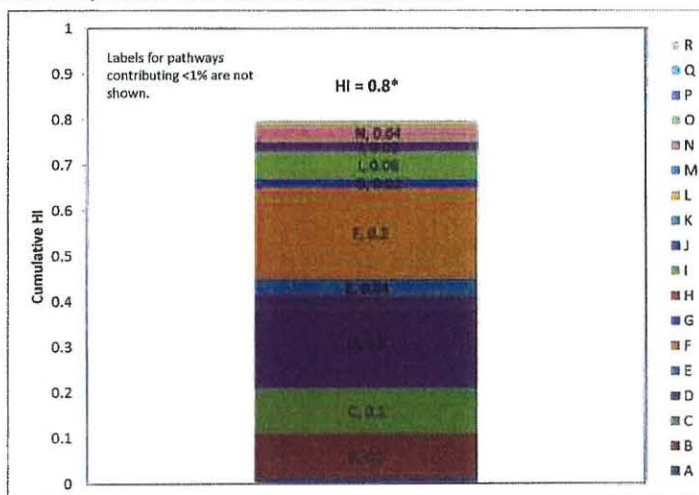
Exposure Scenario		TWF	% of total
A	Outdoor air under ambient conditions	0.2	20%
B	Outdoor air while fishing along the Kootenai River	0.01	1%
C	Indoor air at an OU4 property under active conditions	0.15	15%
D	Indoor air at an OU4 property under passive conditions	0.45	45%
E	Outdoor air at an OU4 property during yard work	0.05	5%
F	Indoor air at the Central Maintenance Building in OU5	0.14	14%
cumulative:		1.00	

FIGURE ES-5. CUMULATIVE ASSESSMENT FOR RECEPTOR EXAMPLE 1

Panel A: Exposure Scenario Contribution to Cumulative TWF



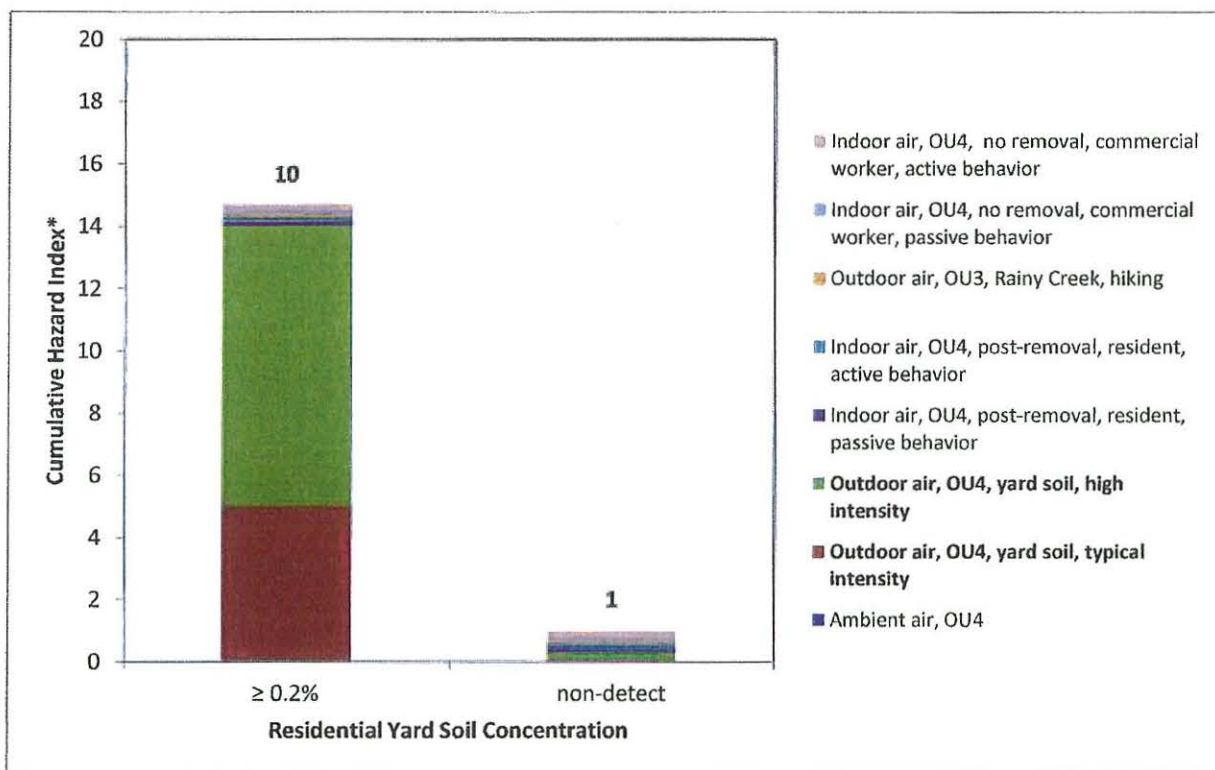
Panel B: Exposure Scenario Contribution to Cumulative HI



Exposure Scenario		TWF		Risk Estimates		
		Value	% of total	Risk	HQ	% of total
A	Ambient air, OU4	0.15	15%	2E-07	0.01	1%
B	Indoor air, OU4, post-removal, resident, passive	0.33	33%	2E-06	0.1	13%
C	Indoor air, OU4, post-removal, resident, active	0.05	5%	2E-06	0.1	13%
D	Outdoor air, yard soil, curb-to-curb	0.05	5%	3E-06	0.2	25%
E	Indoor air, OU4, no removal, worker, passive	0.1	10%	7E-07	0.04	5%
F	Indoor air, OU4, no removal, worker, active	0.1	10%	4E-06	0.2	25%
G	Outdoor air, OU4, Libby Middle, student	0.00082	0.08%	3E-07	0.02	3%
H	Outdoor air, OU4, Koot. Valley HS, student	0.0016	0.2%	0E+00	0	0%
I	Outdoor air, OU4, Libby Elem., student	0.0029	0.3%	9E-07	0.06	8%
J	Indoor air, OU4, student, Elem. School	0.037	4%	4E-07	0.02	3%
K	Outdoor air, OU7, Golf course, adult	0.012	1%	0E+00	0	0%
L	Outdoor air, OU4, biking, adult	0.013	1%	0E+00	0	0%
M	Outdoor air, OUS, MotoX, participant	0.012	1%	0E+00	0	0%
N	Outdoor air, OU4, LUA soil, ATV, A	0.0030	0.3%	6E-07	0.04	5%
O	Outdoor air, OU3, forest, hiking, far	0.0030	0.3%	1E-07	0.008	1%
P	Outdoor air, OU3, Kootenai, fishing	0.015	1%	0E+00	0	0%
Q	Outdoor air, OU8, Driving in Libby	0.020	2%	0E+00	0	0%
R	Offsite	0.1	10%	0E+00	0	0%
cumulative*:		1.000		1E-05	0.8	

* All HQ and HI values are expressed to one significant figure; thus, the height of the bar may appear different from the HI value shown in the table.

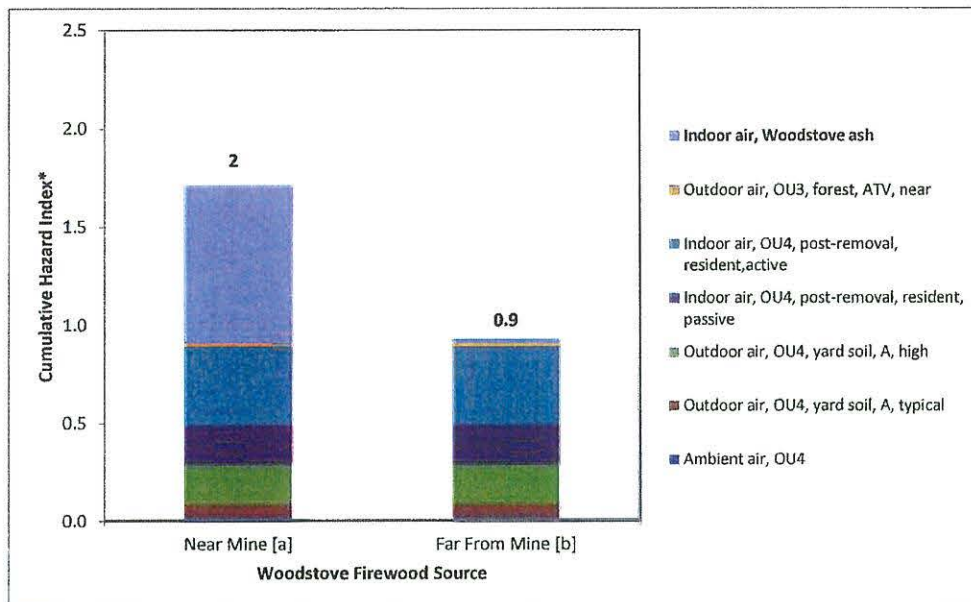
FIGURE ES-6
ILLUSTRATION OF CUMULATIVE HI FOR DIFFERENT YARD SOIL CONCENTRATIONS
Libby Asbestos Superfund Site



* All HQ and HI values are expressed to one significant figure; thus, the height of the bar may appear different from the HI value shown.

FIGURE ES-7
ILLUSTRATION OF CUMULATIVE HI FOR DIFFERENT ACTIVITY LOCATIONS
Libby Asbestos Superfund Site

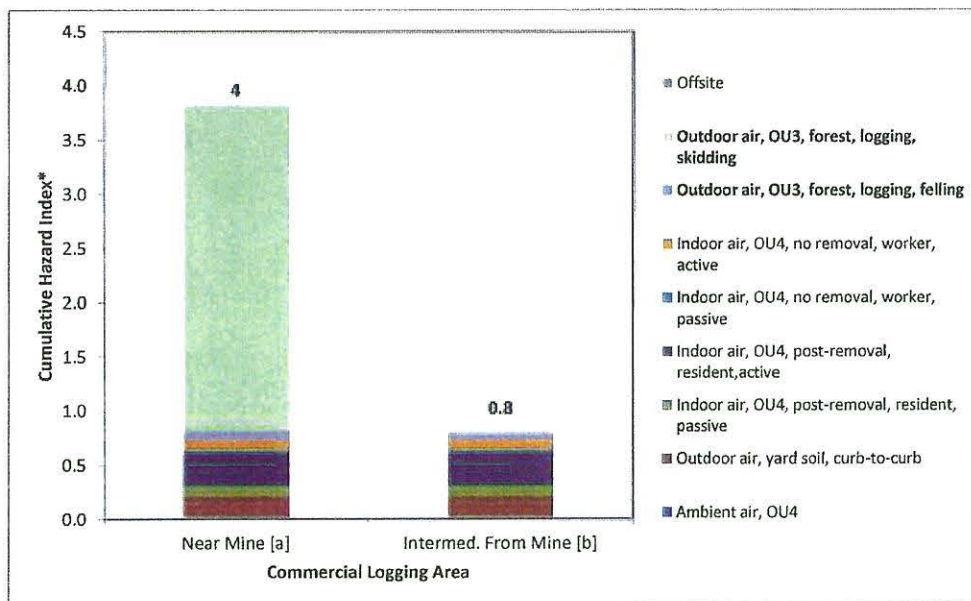
Panel A: Woodstove Firewood Source



[a] Near mine: firewood collected approximately one mile downwind of the mine site

[b] Far from mine: firewood collected approximately 10 miles south of Libby and outside the current NPL boundary

Panel B: Commercial Logging Area

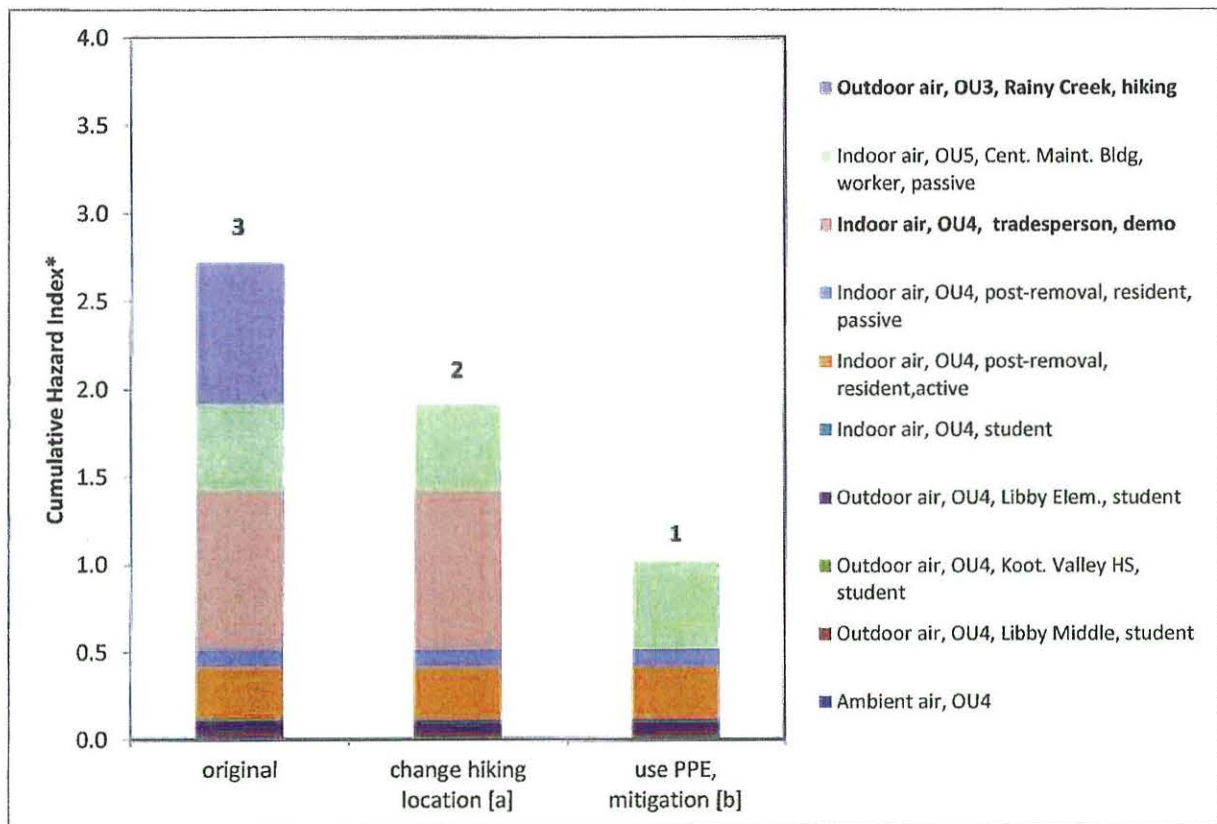


[a] Near mine: Logging activities performed within 1 mile of the mine

[b] Intermed. from mine: Logging activities performed about 4 miles from the mine

* All HQ and HI values are expressed to one significant figure; thus, the height of the bar may appear different from the HI value shown.

FIGURE ES-8
ILLUSTRATION OF CUMULATIVE HI CHANGE WHEN ADDRESSING MAIN RISK DRIVERS
Libby Asbestos Superfund Site



[a] Change hiking location from along Rainy Creek to along the Kootenai River

[b] Use appropriate personal protective equipment and employ dust mitigation measures during tradesperson demolition activities

* All HQ and HI values are expressed to one significant figure; thus, the height of the bar may appear different from the HI value shown.

TABLE ES-1
 Conceptual Site Model, Exposure Pathways and Populations
 Libby Asbestos Superfund Site

Exposure Media	Exposure Locations	Operable Unit	Disturbance Description	Exposure Population ^(a)					
				Resident	Recreational Visitor	Teachers/ students	Indoor Worker	Tradesperson	Outdoor Worker
Outdoor air, ambient conditions	Outdoor	All	—	•	•	•	•	•	•
Outdoor air, during soil/duff disturbance activities	Parks	OU1, OU4, OU7	lawn/park maintenance						•
			park use		•				
	Road ROW	OU2, OU8	mowing/brush-hogging						•
	Kootenai River	OU2, OU3	hiking on trails/paths		•				
			fishing/boating		•				
	Mine Site, Rainy Creek	OU3	hiking, trespassing		•				
	Forested Areas	OU3, OU4	hiking		•				
			building campfires		•				
			ATV riding		•				
			USFS forest maintenance						•
	Residential/Commercial Properties	OU2, OU4, OU7	cutting firelines						•
			yard work	•					•
			gardening	•					•
			playing on driveways	•					
	Schools	OU4, OU7	ATV riding in LUAs	•					
			outdoor maintenance						•
	Bike Trails/Paths	OU4, OU5, OU7	playing on playgrounds			•			
	Riding Bicycles	OU4, OU5, OU7	riding bicycles		•				
	Roads	OU3, OU8	driving cars	•	•	•	•	•	•
	Motocross Track	OU5	motocross participant/spectator		•				
	Industrial Properties	OU5	site maintenance						•
	Railroad Corridors	OU6	RR maintenance						•
Outdoor air, during tree bark disturbance activities	Forested Areas	OU3, OU4	local wood harvesting	•					
			commercial logging						•
			campfire burning		•				
	Landfills	OU4, OU7	wildfire	•	•	•	•	•	•
Outdoor air, during woodchip/mulch disturbance activities	Woodchipping	OU4, OU7	woodchipping						•
Indoor air, passive conditions	Residential/Commercial Properties	OU2, OU4, OU7	gardening/landscaping	•					•
	Woodchip Piles	OU5	pile maintenance						•
Indoor air, during VI disturbance activities	Residential/Commercial Properties	OU4, OU7	—	•			•		
	Industrial Properties	OU5	—				•		
	Schools	OU4, OU7	—			•			
Indoor air, during indoor dust disturbance activities	Residential/Commercial Properties	OU4, OU7	attic use, routine property maintenance	•				•	
			construction/demolition					•	
Indoor air, during woodstove ash disturbance activities	Residential/Commercial Properties	OU4, OU7	cleaning (sweeping, dusting, vacuuming)	•					
	Commercial/Industrial Buildings	OU1, OU5	general				•		
	Schools	OU4, OU7	general			•			
Indoor air, during woodstove ash disturbance activities	Residential/Commercial Properties	OU4, OU7	woodstove ash removal	•					

^(a) Note that a given individual may be a member of several exposure populations. For example, an individual may live in OU7, work in OU4, and recreate in OU3. In this example, aspects of the exposure scenarios for a resident, indoor worker, and recreational visitor would apply to the individual. The cumulative assessment addresses cumulative exposures that span multiple exposure scenarios.

Notes:

ATV - all-terrain vehicle
 LUAs - limited-use areas
 OU - operable unit
 ROW - right-of-way

USFS - United States Forest Service
 VI - vermiculite insulation
 RR - railroad

TABLE ES-2

Estimated Risks from Residential Exposures to LA During Soil Disturbance Activities

Libby Asbestos Superfund Site

Location	Exposure Scenario & Soil Concentration	Yard ABS Script Intensity	EPC	RME Exposure Parameters				Cancer Risk	Non-cancer HQ
			Mean Air Conc. (PCME LA s/cc)*	ET (hours/day)	EF (days/year)	ED (years)	TWF		
Libby (OU4)	Yards (Mowing, Raking, Digging)								
	Non-detect	high intensity	0.0040	0.3	60	50	0.0015	1E-06	0.07
		typical intensity	0.00011	6.3	60	50	0.031	6E-07	0.04
		TOTAL						2E-06	0.1
	Trace (<0.2%)	high intensity	0.061	0.3	60	50	0.0015	2E-05	1
		typical intensity	0.0024	6.3	60	50	0.031	1E-05	0.8
		TOTAL						3E-05	2
	≥ 0.2%	high intensity	0.21	0.3	60	50	0.0015	5E-05	3
		typical intensity	0.0080	6.3	60	50	0.031	4E-05	3
		TOTAL						9E-05	6
	Gardens (Rototilling)								
	Trace (<0.2%)	---	0.039	2	2	50	0.00033	2E-06	0.1
	Gardens (Digging)								
	Non-detect	---	0.00020	3.3	40	50	0.011	4E-07	0.02
	Trace (<0.2%)	---	0.00066	3.3	40	50	0.011	1E-06	0.08
	≥ 0.2%	---	0	3.3	40	50	0.011	0E+00	0
	Driveway (Playing & Digging)								
	Non-detect	---	0	2	225	15	0.011	0E+00	0
	Trace (<0.2%)	---	0.0057	2	225	15	0.011	1E-05	0.7
	≥ 0.2%	---	0.0050	2	225	15	0.011	9E-06	0.6
	LUAs (ATV-riding)								
	Non-detect	---	0.0012	2	20	50	0.0033	7E-07	0.04
	Trace (<0.2%)	---	0.0014	2	20	50	0.0033	8E-07	0.05
Troy (OU7)	Yards (Mowing, Raking, Digging)								
	Non-detect	typical intensity	0.000062	6.6	60	50	0.032	3E-07	0.02
	Trace (<0.2%)	typical intensity	0	6.6	60	50	0.032	0E+00	0
	Residential, Outdoor Gardens (Digging & Rototilling)**								
	Non-detect	---	0.000023	5.3	42	50	0.018	7E-08	0.005
	Trace (<0.2%)	---	0	5.3	42	50	0.018	0E+00	0
	Residential, Outdoor Driveway (Playing & Digging)								
	Non-detect	---	0.000079	2	225	15	0.011	1E-07	0.01
Trace (<0.2%)	---	0.000085	2	225	15	0.011	2E-07	0.01	

* Concentrations have been adjusted to account for filter preparation method (see Section 2.3.4)

** Exposure time and frequency have been summed because the EPC is based on a combination of the activities.

Notes:

ABS - activity-based sampling

ATV - all-terrain vehicle

Conc. - concentration

CTE - central tendency exposure

ED - exposure duration

EF - exposure frequency

EPC - exposure point concentration

ET - exposure time

HQ - hazard quotient

LA - Libby amphibole asbestos

LUA - limited use areas

PCME - phase contrast microscopy - equivalent

RME - reasonable maximum exposure

s/cc - structures per cubic centimeter

TWF - time-weighting factor

% - percent

< - less than